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MISNAMED ROSES.

I WAS somewhat astonished, when looking over some manuscript notes on Roses, to discover the exceeding number of plants having not the slightest relationship to the true Rose that are or have been called by that name. A too cursory examination might lead to the supposition that these names had been bestowed without consideration, so great is the discrepancy existing between such plants as the Pea, the Hollyhock, the Cherry, the Willow, and many others, as well as the Rose itself. As a fact, however, in very few instances is there any difficulty in tracing the connection. The great majority have flowers like single Roses; and indubitably that is the reason why they have been called Roses. Others are like double Roses, while in the case of a very few leguminous plants, it is not easy to trace the connection. For the sake of distinction these "Rose" plants may be divided into sections—those named after other plants; those having some distinctive appellation, such as water, sun, or wind; others named from a season of the year, or after a country, or, in the case of the smallest number, after a person. Of the latter, the Mary Rose is *Ledum palustre*, St. Mary's and Juno's Rose, *Lilium candidum*; the Gipsy Rose, from its dark colour, *Scabiosa atro-purpurea*; the Woodman's Rose, *Rubus spectabilis*; and Christ's Rose, the same as Christmas, New Year's, and Winter, which is rightly *Helleborus niger*. The oriental species of *Helleborus* are well known as Lenten Roses; and the double Daffodil, not the single, sometimes has the same designation. *Cistus annuus* is the Rose of a Year, *Kerria japonica* the Summer, and *Viburnum Opulus plenus* the May

Rose, though *Rosa cinnamomea* is more correctly so called, as in Moore—

"Sooner shall the Rose of May
Mistake her own sweet Nightingale."

The *Viburnum* is noteworthy as still bearing an old, but erroneous name, *Gueldres Rose*, an eighteenth-century improvement on which is *Guelderland Rose*; but if we are to credit Parkinson, the correct form is *Elder-Rose*, or rather *Rose-Elder*, the equivalent of *Sambucus rosea*, its Latin name in bygone days. *Spiræa opulifolia*, it may be noted in this connection, was the *Virginian Elder-Rose*. Most persons would, without hesitation, declare for a species of the true Rose as being the China, but *Hibiscus syriacus* and *Astragalus sinensis*, both have a prior claim. Then someone has tried to improve on Gipsy for the Sweet Scabious, and denominated it Egyptian! One of the oldest designations belonging to the French Marigold is *Indian Rose*; while the *Camellia* at one time in current speech was the *Rose of Japan*. *Lupinus luteus* flourished under a variety of names, bestowed upon it, according to Parkinson and Coles, in order to cheat the buying public, one such being the apparently meaningless *Virginian Rose*. It has an interest of a kind, as indicating a custom long established among nurserymen to offer the horticultural world wares from a new country under taking names. Turner described the curious *Anastatica hierochuntica* as the *Rose of Jericho*, which on the Continent is commonly associated with the *Virgin Mary*, and described as her *Rose*; while *Rose of Sharon*, which has been a stumbling-block irremovable by any commentator, is the popular name among gardeners of *Hypericum calycinum*, *Rosin Rose* being less commonly in use. The *South Sea Rose*, *Nerium odorum plenum*, was at one time well known; and about 200 years ago, in that age of artificialities, *Rose Tremier* did duty for *Hollyhock*, which has also been called *Beyond-the-Sea Rose*, *Holly Rose*, and *Rose Mallow*. *Rose of Heaven* I have found nowhere save in Mrs. Loudon's book on *Annuals*, and that is perhaps her own rendering for *Agrostemma Coeli-rosa*. Then for the *Buttercup*, a not common equivalent is *Butter-Rose*, which I note also as being applied to the *Primrose*. *Marsh Rose* is also uncommon, while *Water Lilies*, it may not be generally known, had a narrow escape from being *Water Roses*—a designation pretty and appropriate, and having, moreover, first claim. The *Wind Rose* is naturally the *Anemone*; while the *Sun Rose* is *Helianthemum vulgare*, sometimes called the *Holly Rose*, but more commonly the *Rock Rose*, from its delighting in a sunny position on rocky banks. *Convolvulus Cneorum*, *C. Dorycnium*, and *Daphne Cneorum* are also *Rock Roses*, as well as a number of species of *Cistus* and *Helianthemum*. The common *Sea Pink* is appropriately known also as the *Cliff Rose*, because it avails itself of the most unexpected positions on the faces of sea cliffs, existing, to all appearance, without any soil to support it. In forgotten books, *Rose Pomey*, an *Eugenia*, and *Rose Martinico*, a *Hibiscus*, occur. Then there is the peculiar *Rose Noble*, for *Wild Comfrey*; the Elizabethan name *Rose-a-Rubie* for *Adonis autumnalis*, and *Rose-root* or *wort* for the *Rose-scented Sedum rhodiola*, by Lyte named *Rose-water*.

It remains now to pass in rapid review the many plants possessing *Rose* as a distinguishing name, and of which it must be said nearly all have dropped out of current use. Among these are some we could ill afford to lose, as, for instance, *Rose Jessamy*, which the notorious Dr. Hill has rescued from oblivion. The plant is still cultivated as *Jasminum Sambac fl.-pl.*, and though smelling as sweetly as it did in the days of powdered wigs and monstrous head-dresses, no one would imagine so from its present name. *Pæonies* are hereabouts called "*Peeny-Roses*,"

an interesting modern use of an ancient name, for *Gawain Douglas* relates how a—

"Cure was done by Esculapius sle
Throw the myeth of the rois Pione."

In some pastoral districts it was known as *Sheep-shearing Rose*, because the flowers were available at the season sheep yielded their fleeces to the shepherd's shears. The *Poppy* very naturally was called *Corn-Cup*, and *Copper Rose*; and it was the unlucky means of causing poor Gerard to perpetrate one of the most ridiculous of his blunders—that where he testifies to red *Roses* growing among corn in *Cheshire*! *Agrostemma Githago* has also been noted as a *corn Rose*, but possibly by mistake; but there is none in the case of *A. coronaria* being the *Rose Campion*. In "*Master Tuggie's Rose Gilliflower*" we have the earliest use of the word to indicate the form of a petal, the so-called *Rose-leaf*. Parkinson, it may be said, was fond of the name. With others already mentioned, he is responsible for the *Rose Cowslip*, a double green variety; green *Cowslips* and *Primroses*, being rather popular, and so common that Spenser refers to them in the *Shepherd's Calendar*. The double form of *Prunus avium* is described as the *Cherry Rose*; his *Rose Cranesbill* is decidedly prettier than our *Bloody Geranium*; and for *Tradescant's Rose Daffodil* he could discover no fitter name. Some are, however, much older than John's day; *Rose Persely*, for instance, dating back to *Turner*, who apparently means *Anemone hortensis*, but later writers mean undoubtedly *Anemone coronaria*. *Rose Pea* too is of great age, and indicates a variety that produced its flowers in terminal clusters. Miller calls it *Rose of Crown*; and as the *Crown Scotch*, or *Mummy Pea*, it would appear to have held its position as a highly esteemed variety during a very lengthened period. Other Legumes comprise *Lupinus pilosus*, the *Rose Lupine*; *Melilotus officinalis*, the *Rose Lotus*; *Robinia hispida*, the *Rose Acacia*. *Rose Columbine* and *Rose Jonquils* are old names of double forms of these flowers; *Rose Mallow*, a modern equivalent of *Malva rosea*; while *Rose Laurel* carries us backwards again many centuries, this and *Rose Bay* being applied to the *Oleander*, in each instance the one name being descriptive of the foliage, the other of the flower. *Rose Bay* applies also to *Epilobium hirsutum*; while *E. angustifolium*, one or two species of *Rhododendron*, and *Kalmia latifolia* also have an interest in it. *Cistus salvifolius* has been called the *Sage Rose*, *Verbena Aubletia*, *Rose Vervain*; and in the south of Scotland, *Juncus squarrosus* is a *Rose Bent*. In addition to these there are a few abnormal forms of vegetable growth that could only be described by old writers by the word "*Rose*." Such are the curious forms of *Plantago lanceolata*, *Rose Ribwort*; *P. major* and *P. media*, both of which Gerard called *Rose Plantain*; and to conclude the series mention must be made of *Salix Helix*, L., the young growths of which being malformed by a *Cynips* intent on the duties of maternity, retain the appearance of rosettes after the fall of the leaf, and on that account we find such names as *Rose Willow* and *Rose of Cambridge* applied to it. *R. P. Brotherton*.

NEW OR NOTEWORTHY PLANTS.

EUCOMIS JACQUINII, C. H. Wright.

Two plants have been confused under the name of *Eucomis nana*. The original, described by L'Héritier, in his *Sertum Anglicum*, p. 17, has obovate leaves, long, and tapering to the base; its peduncle is spotted with purple, and the conal bracts have a distinct purple border. This is the plant figured in the *Botanical Magazine*, t. 1495, and for which the name *E. nana* should be retained. The other plant, figured under the same name in *Jacquin's Hort. Schanbrunn*, i., t. 92,

also has obovate leaves, but they taper less to the base, and are comparatively broad; the inflorescence is destitute of purple. For this latter plant, which has recently flowered at Kew, I propose the name *E. Jacquini*. C. H. Wright.

POA ANNUA A SELF-FERTILISER.

In his interesting observation on this grass, Mr. Lynch does not allude to the most important

within the anther-cells. Nearly the whole of a panicle may be still compacted and half hidden within the leaf-sheath, while the anthers of the uppermost spikelets have shed their pollen. The topmost spikelet is often female, and, of course, must receive a grain from some other floret.

The entire spikelet does not stand more than from a $\frac{1}{2}$ in. to at most $1\frac{1}{2}$ in. above the soil among the blades cut short by the mowing machine. Every grain is set when there is no wind at all.

Mr. Lynch touches upon the wider question of the supposed superior advantages of intercrossing. From a florist's point of view, this is undoubted; but the "stimulus" is not permanent. This question was settled a quarter of a century ago. I would refer Mr. Lynch to my paper on "Self-Fertilisation" (*Trans. Linn. Soc.*, 1877), to Müller's "Fertilisation of Plants" (1883), to my "Origin of Floral Structures" (1888), and to Kerner and Oliver's "Natural History of Plants," s. "Autogamy."

With regard to "Essex's" enquiry, I can only speak from my own experience, as given. Let "Essex" try it at once, in a small portion, and let it seed freely. If he finds that it begins to oust the others, let it seed itself freely, and perhaps next year it may be mown, as it will die its usual annual death. It has practically filled my lawn in five years, and makes an excellent and soft "pile." George Henslow.

HOME CORRESPONDENCE.

SAXIFRAGA GUILDFORD SEEDLING.—In writing of the coloured forms of the mossy *Saxifraga* in the *Gardeners' Chronicle* recently, Mr. S. Arnott mentions the above. As there appears some doubt as to its origin, and as the gentleman in whose garden and collection it first appeared is no longer with us to speak for the plant he so much cherished, I will place on record that which I know concerning it. I was spending the day with the late Mr. Selve Leonard at Guildford some three or more years ago, when in going into the garden almost his first words were—"I have got something I think you will like;" and he straightway took me to the plant now known as *Saxifraga* "Guildford Seedling." After a good deal of admiration, and asking many questions, Mr. Leonard distinctly told me that "we know nothing about it, more than the fact that it occurred here as a spontaneous seedling; in fact, we have nothing like it." Then it was that I pointed out the resemblance in growth and other particulars, as, e.g., time of flowering, height, &c., to *Saxifraga Rhei*, with the result that a plant of the latter was compared with the seedling, and upon closely examining each plant, Mr. Leonard agreed with me that it must be a chance seedling from *S. Rhei*, and so far as I know of he never wavered from that opinion. With his wonted kindness, Mr. Leonard very early sent me a plant of the new kind. This then is, I believe, all the history attaching to this fine plant. I regret, however, to find that there is a spurious form in circulation, not nearly so good or rich in colour, and without one of the most distinct characteristics of the true plant, viz., its richly-coloured stems. Grown fully exposed, that is without frame protection and the like, the Guildford plant is of interest from the very advent of the flower-stems, and their rich colouring is maintained till the greater beauty of the intense-coloured blossoms is revealed. I know of no other species that so strongly embodies this fine feature. It is, however, sufficient to give a clue to the true plant at a glance, even before the flowers expand. *S. Fergusoni* I have not grown, unless I have it under another name, for I have an inferior plant to the above, which is distinct also from *S. Rhei*. I agree with Mr. Arnott's remarks as to the distinctions between *S. muscoides* and *S. Rhei*. In its profuse flowering, its greater freedom also, and in the conical character of the growth, i.e., rosette, *S. muscoides* *atro-purpurea* differs widely from the greener, more hairy, sparse-flowering, and flat, table-shaped rosette of *S. Rhei*, for example. By the way, there is yet a large flowering kind of *S. Rhei* known as *S. R. superba*. It differs simply in being of larger growth, greater stature, and in having decidedly larger flowers. It is, in truth, an enlarged *S. Rhei*. E. Jenkins, Hampton Hill.

EUPATORIUM ODORATUM.—It is pleasing to notice that reference has been made to this odd and somewhat neglected plant. When well grown, few decorative subjects give such good returns for the time and labour spent on them. For some years I have grown a good batch for

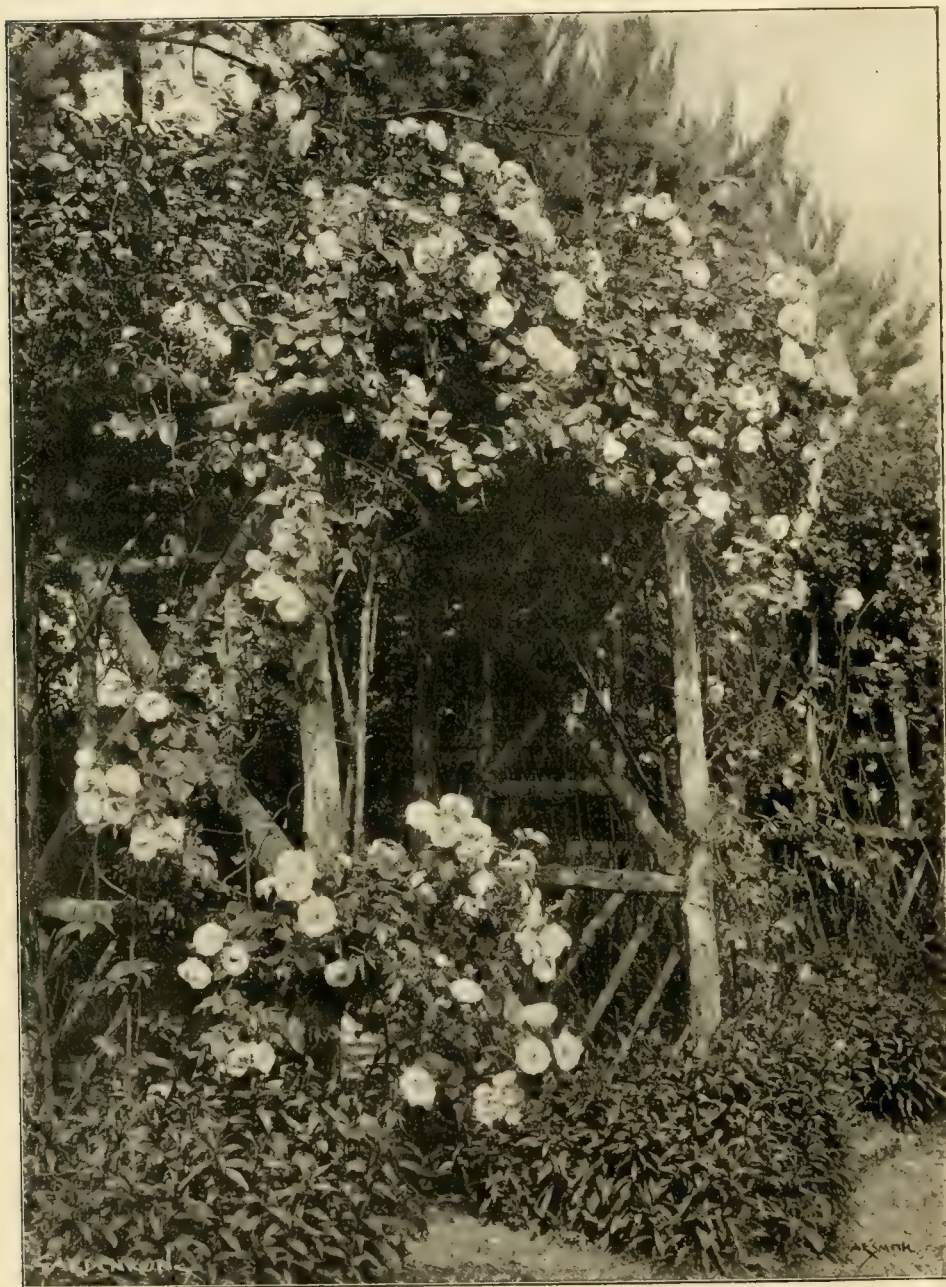


FIG. 1.—A SEAT IN A ROSE-COVERED ARBOUR.

(From a photograph by F. Mason Good.)

point, viz., the exact period when the anthers first burst and shed their pollen. My own observations lead me to conclude that this takes place as soon as the florets open, when the stigmas protrude and the anthers are just above them, i.e., before the filaments are elongated to their full extent. Indeed, sometimes the pollen has escaped before the florets open. So rapid is the process, that the anthers of any floret may have lost all their pollen before the one next below is open at all. As far as I have observed, in no case were the elongated filaments, when hanging out to their fullest extent, with any pollen still

I still, therefore, adhere to my view of self-fertilisation. If any pistil of one floret happen to receive the grain of pollen required to fertilise it from another on the same plant, this is practically equivalent to self-fertilisation; but the latter is far the more probable. The well-exposed stigmas and the anthers hanging out of the floret are no proofs of intercrossing. It depends upon the time which elapses between the maturation of stigmas and anthers. If this be zero, and the two are made together, and that before the filaments have elongated, then self-fertilisation is the result.



FIG. 2.—NOISETTE ROSE LAMARCK: FLOWER WHITE, WITH CENTRE OF DEEP STRAW COLOUR.

(From a photograph by F. Mason Good.)

conservatory decoration during the autumn and winter months, and when the plant is placed among zonal Pelargoniums, Chinese Primulas, &c., the light fluffy flowers give lightness and finish to the arrangement, and they last for a considerable time in good condition. Another small-growing Eupatorium, and equally useful as the foregoing, is *E. riparium*. The habit of the plant may be faulty, but this can be overcome by timely staking and disbudding. Cuttings rooted early form plants that will commence to flower in January, and continue to produce flowers for eight or nine weeks. Eupatoriums may appear rather commonplace subjects, but where a large number of decorative plants are required, and the means of production limited, easily grown and useful plants have to be considered. H. S.

FORTUNE'S YELLOW ROSE.—Having a plant of this favourite Rose under my charge, I have closely followed the recent interesting correspondence, hoping that information would be forthcoming as to the cause of and a suggestion of a remedy for the shedding of the foliage. Judging from the remarks of the several correspondents, it would appear rather singular that the dropping of the leaves should generally take place at the same stage of growth, viz., just before the buds open. The plant in my charge is growing in an inside border, and is trained on the east side of a span-roofed house, and as a rule we get a good quantity of blooms; but the leaves are more or less liable to shed just as the flowers are about to expand. As Mr. Fyfe points out, any Rose devoid of foliage has lost half its charms; which is especially true of Fortune's Yellow, the elegant foliage forming a perfect setting for the flowers. My impression is, that if the supply of moisture in the atmosphere and at the roots is carefully regulated, the evil may be greatly reduced. H. Stark.

SWEET PEAS.—The discoveries of Mendel opened a wide field for experimental work. For some years I have been specially interested in the subject of seed sports and reversions amongst florists' flowers. Everyone must have noticed that the Sweet Pea seems to become more and more inclined to sport. From experiment and observation I have come to the conclusion that those who take the trouble to closely observe the sports, and compare them with sports occurring in other parts of the country, will find very

clear evidence of the working out of some fixed law. It is Mendel's. Last year there was a controversy over the new white Sweet Pea Dorothy Eckford. The decision of the National Sweet Pea Committee was, that it was the result of the accidental mixing of the seeds of a new white variety with that of Miss Willmott. Has anyone proved this decision to have been incorrect? I think I have. The fact of several growers sending up the same form as a sport from Miss Willmott proves that it occurred simultaneously in several parts of the country. If the seed had been mixed

by a wholesale house, this would be easily explained; but if the same sport occurs in Miss Willmott the next season and again in this, what are we to think? Again, if a number of Dorothy Eckford show a marked tendency to revert to Miss Willmott (which they do), why should they? Last season it was observed that some of the seeds of Dorothy Eckford were black, the majority being white. I have this season seen the result of keeping the black seeds separate. The white-seeded remain true, but the black-seeded seem very undecided, and in a row of 12 feet in length I have noted every transition from pure white back to Miss Willmott. I enclose blooms herewith, to show the intermediate states. Carefully saved seeds of Miss Willmott I have known sport to a pure white, identical with Dorothy Eckford. We will assume that a cross has been made, and the progeny is Miss Willmott; we will, as in Mendel's experiments, call it the dominant form. As all know, natural cross-fertilisation in Sweet Peas is practically impossible, and therefore for a certain number of seasons we have a true Willmott progeny. During these seasons the recessive form has been gaining power, and eventually shows itself—as a sport. Is it not possible and probable that Dorothy Eckford is the recessive form of a cross made some years ago? This season, I find Lady O. Gore, a cream, sporting freely to a form near to Othello; and Navy Blue is sporting in the same manner to a purple-maroon. Why should a large number of seeds sport to a definite colour? J. J. Cole, 8, Arlington Terrace, Dereham. [The flowers described as the produce of black seeds of the variety Dorothy Eckford, are all more or less pink in colour, appearing like a badly selected strain of Miss Willmott, but they do not include such a white flower as Dorothy Eckford. If Dorothy Eckford is a sport from Miss Willmott, there is nothing unusual in the new variety reverting in instances to the type, particularly before it has been more or less fixed by selection. Ed.]

FRUIT PROSPECTS IN CORNWALL.—We have the worst fruit year we have ever had. The sharp frosts and cold winds in April were disastrous, and the only good crops we have are White Currants on a north wall; Strawberries, and three or four Apple-trees—Allen's Everlasting, a seedling, Luscombe, and Apple Blanche, a variety



FIG. 3.—AN ARCH OF ROSE FELICITÉ-PERPETUÉ AT MILTON COURT

(See *Gardeners' Chronicle*, June 20, 1903, p. 389.)

of which there are a few trees in the neighbourhood of Plymouth, said to have been grown from grafts brought from France after the occupation of Paris in 1815. It bears very well every other year, and is a fair Apple for dessert. Louise Bonne of Jersey, Clapp's Favourite, and Croft Castle, are the only Pears with any crop upon them. No Plums, but Figs abundant. *Henry Rogers, Hartley, Plymouth.*

THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.—I quite agree with Dr. Bonavia, that this is attaining unwieldy dimensions, and that the expense of printing a large quantity of notes on subjects which interest only a very small portion of the Fellows, is partly wasted. It would be far better if the Proceedings were separated from the Transactions, and the latter were only sent to those Fellows who consider them worth paying for, as is done in the case of the Zoological Society. *H. J. Elwes, Colesborne.*

GRAPE LADY HASTINGS.—This variety came into commerce with strong encomiums from the Gardening press, as having all the good qualities that a good Grape should possess. I purchased a plant of it soon after its appearance, and planted it; but by the autumn it was almost dead, and in the following spring it failed to grow again. The vendors generously replaced it by another vine. I was therefore hoping that this would quickly exhibit the strong growth this variety was said to make, unless restricted at the roots. In two years this vine has made about 18 inches of growth, of about the thickness of an ordinary pipe-stem. That scarcely points to this vine requiring a restricted root run; or is this luxuriant growth the same as the other good points claimed for this variety? A Grape that will ripen with the earliest, and possesses a Muscat flavour, and a berry as large as that of Gros Colmar, which will hang well when ripe, ought to be worth growing. I have never seen fruits of the Lady Hastings Grape, and am giving the vendor's description as far as my memory serves me. Perhaps some reader of the *Gardeners' Chronicle* who has cultivated this variety successfully will favour readers with the particulars of his treatment of the plant. *Paul T. More.*

PARTIAL DEATH OF A VIBURNUM OPULUS.—A remarkable instance of this appears in a forecourt garden at Ealing. What was probably the sterile form (Gueldres Rose) was originally planted; in course of time, the stock triumphed over the scion, and formed a good head, which for a time bloomed freely and produced its bright red berries in the autumn. Then a few years ago, hypertrophy began to put in its appearance, so that gradually every twig on every branch showed excrescences. The result is, that all the branches springing from a main stem, 5 feet or so in height, and which formed a dense head, are dead. But from the main stem, just below the point where the branches radiated from the trunk, strong and vigorous growths are being put forth, as robust and healthy as one could well desire. Excess of moisture is said to be a cause of these excrescences, but as an asphalte path divides it by a few feet only from a deep drain which carries away the surface water, I can scarcely imagine this to be a cause, especially as on the other side, and not more than 8 feet or so away, there is a rather deep basement to the dwelling. If the death of the branches arose from some disturbance at the roots, one would scarcely imagine the young growths would be so vigorous. I should have thought the trunk would have decayed in the same manner as the branches. *R. Dean, Ealing.* [The cause of the production of these hard excrescences is unknown. We have known for many years a Thorn hush (*Cratægus*) covered with them. They are so hard, that an ordinary knife cannot cut them. *Ed.*]

RUBUS REFLEXUS v. MOLUCCANUS.—At the Ghent Quinquennial Exhibition, held this year, plants of a distinct and attractive Rubus were shown by M. Duval and others, under the name of *R. reflexus*, said to have been of Yunnan origin. I saw and purchased some of these plants, and they now fill a bed on one of the lawns at Kew, where they promise to be a success, the growth being vigorous, and the leaves ele-

gantly lobed, velvety green with grey variegation above, and covered with soft, pale cinnamon-brown pubescence beneath. This plant differs from *R. reflexus* as represented in *Bot. Mag.*, t. 7716 (1900), mainly in the grey variegation of the leaves; in their form, pubescence, and spines there is no difference. This figure was prepared from a plant which for years has clothed a pillar in the Temperate-house at Kew, where it blooms freely in August, the flowers, like those of the common Blackberry, white, $\frac{3}{4}$ -inch across; but it does not ripen fruits. There is a marked difference between this and *R. moluccanus* as grown at Kew for many years, both in the Palm-house and Temperate-house, where it climbs to the top of a pillar 20 feet high, and produces in autumn large clusters of purple fruits, larger than the largest of Blackberries, and as juicy and sweet. This plant has orbicular, lobed, rugose leaves, with a whitish pubescence on the under side; it also produces much stouter shoots than *R. reflexus*. It will be seen from what is here stated, that the plant shown at Ghent by M. Duval, and afterwards at the Drill Hall by Mr. Lloyd, is *R. reflexus*, and not *R. moluccanus*, although it is figured under the latter name in the last volume of the *Gardeners' Chronicle* (see p. 309). [*R. reflexus* is made synonymous with *R. moluccanus* in the *Kew Index*, and in the *Kew Hand-List of Tender Dicotyledons*. *Ed.*] For garden purposes we might adopt the name of *R. reflexus pictus* for this plant, to distinguish it from the green-leaved type. I send herewith leaves of the former and of *R. moluccanus* for comparison. *W. Watson, Kew.*

CULTURAL MEMORANDA.

EUPHORBIA (POINSETTIA) PULCHERRIMA.

The following method is a good one by which to obtain fine plants. Some old plants should now be planted in a cold pit, and the atmosphere kept close until they are established, when the lights may be removed. By September the plants will have made several strong growths; and the tops of these, about 3 inches long, should be taken off and inserted in 3-inch pots, in which pots they will flower. Plunge them in a propagating case having a brisk bottom heat as soon as they have made roots; remove the young plants to a shelf in a temperature of 60°, and shade for a few days from sun. When they are growing freely, feed them occasionally.

To prevent Poinsettia cuttings from bleeding to great extent, cut the stem halfway through; in a week's time the cut portion will have calused, when the other half can be severed. Cuttings taken in this way will root much more quickly than those taken at one cutting. *J. Murray, Sopley, Christchurch.*

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bilton, Budleigh Salterton, Devonshire.

Gardenias.—Repot young plants before they become pot-bound. The pots in which they will flower need not exceed 6 inches in diameter, and unless the available loam contains much fibre, let peat form the major portion of the compost, adding a good proportion of sand. Pot firmly, and afford the plants a warm and moist atmosphere until growth is finished.

Bougardias.—In the warmer counties these plants succeed out-of-doors during the summer if placed in partial shade. Ours are stood under a north wall at 2 feet from the base, where they get sunshine in the mornings and evenings. Pinch the shoots at the second joint during the next four or five weeks. Examine the plants frequently to ascertain if any need water at the root, and syringe them overhead on fine evenings. Any requiring more root space should be repotted, and a neat stake put to each plant, to which the principal branches may be supported with a band of raffia. Turn round the plants each week to prevent them becoming one-sided.

Young plants that were rooted this spring should be kept under glass for another month.

Humea elegans needs to be afforded water with very great care; a little weak manure water may be given them once a week. They show to the best advantage if not tied up stiffly, and are suitable for planting singly in vases. Seed may now be sown in shallow pans for next year's supply, the pans being filled to within 1 inch of the rim with equal parts of loam and leaf-soil, to which should be added sand and a small quantity of powdered plaster or lime-rubble. The drainage must be perfect. Water the soil an hour or so previously to sowing the seeds, and cover them very slightly. Put the pans in a cold pit or frame, and shade from the sun until germination has taken place. Prick out the seedlings into other pans as soon as they become fit.

Hydrangeas.—Plants rooted in March or April will need a shift into $\frac{4}{8}$ -inch or $\frac{5}{8}$ -inch pots. The first-named pot is quite large enough for the weaker-growing variety, Thomas Hogg. Let the compost consist principally of loam, with a sprinkling of bone-meal. Pot firmly, and return the plants to a cold frame until re-established. They may then be placed in a sunny position out-of-doors, so that the growth may get thoroughly ripened. In respect to the white variety, Thomas Hogg, I pinch out the point as soon as the cuttings are rooted. These plants, if well ripened, should carry from three to five heads of bloom. Cuttings of half-ripened shoots may still be inserted singly in small pots, which I place under a hand-glass in a shady corner, and keep moist and close until rooted. These late plants should not be pinched, and should be potted finally early next year. Old plants, if intended for another year's service, should be cut hard back after flowering, and afforded a little heat and moisture, until they have made growth 2 inches in length, when they may be afforded larger pots if it is considered to be necessary, and may then be placed out-of-doors. *H. paniculata grandiflora* is useful for late flowering, and should be fed twice weekly until the flowers begin to expand.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Tulips.—It is a moot-point as to whether the late flowering Tulips should or should not be lifted annually. My experience is that in light, sandy soils the bulbs may safely be left for two or three years at the least, but that on the whole it is best to lift them, and the present is an excellent time for so doing. When the old flower-stems can be twisted round the finger without breaking, the bulbs are fully made up. One reason for lifting, especially where the soil is not of the best for Tulip culture, is that it affords an opportunity for sorting the bulbs and reserving the best for planting in the more important positions, thus eliminating the chance of there being vacancies where these would be most undesirable. I do not advise the throwing away of the small bulbs, as if these are planted in the reserve garden they will probably make excellent bulbs for planting the next year or later. In most gardens Tulips are undersized this year owing to hailstorms and cold having injured the leaves, which did not allow of the bulbs finishing up satisfactorily.

Hesperis matronalis flore pleno.—The double white Rocket, although a favourite plant in most gardens, is seldom met with in good condition, it not being a very easily grown plant. Better results than are usually observed would follow if the flower-stems were cut quite down to the ground as soon as the flowering is over, and the side shoots taken for making cuttings late in the month of August. These shoots root quickly, and make strong plants. Leaving the flower-spikes on a plant prevents the growth of side-shoots, or at any rate these growths do not become strong.

Bedding Plants.—Gaps in the flower-beds may be filled up from the reserve of plants. At Shipley, I am now planting out Cannas, as until quite recently the weather has been too cold for them; but now, given warm weather and plenty of manure in the soil, the plants will be in good form by early autumn—a time when Cannas are

most appreciated. Fuchsias, if the flowers are not yet wanted, will be much relieved by the removal of the flower-buds, and to do so will tend to keep the plants in flower till late in the year.

Bedding Plants in Baskets or Vases.—These must receive close attention in the matter of affording water, and some kind of mild liquid manure.

Gladiolus.—These are much benefited by a dressing of guano, followed by a copious application of water. When well nourished in this manner, the corms that appeared small when planted will grow to large sizes, and often afford finer spikes than those obtained from corms of a larger size, which frequently have an unfortunate habit of going off with the "yellows" just as they should be throwing up good flower-spikes.

Dahlias should receive plenty of manure, and have water copiously applied when the weather is hot and dry. Few plants repay good cultivation better than Dahlias. Let the growths be tied-in fairly closely, as if neglected in this particular, high winds cause much harm.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

The Fig.—The sunless weather of the past few weeks has been unfavourable to growth and to the ripening of the fruits, and in order to make the most of sunshine, remove every shoot that is not required for extension or for fruiting next year. The overcrowding of the shoots is a potent cause of immaturity in the wood, and consequent shyness to bear; moreover, such embryo fruits as there are do not winter satisfactorily, and light crops are the result. Secure the shoots to the wall with ties of bast or with nails and shreds; train a young shoot over each main branch, as sun scorching from full exposure will sometimes cause a check, and result in the loss of many of the fruits. See that the trees are well supplied with water, especially on light soils, and apply a mulch of farmyard manure over the roots. If red-spider should appear on the leaves, forthwith apply an insecticide, and heavily syringe the foliage once a day.

Out-of-door Vines.—Let the young shoots be fastened to the walls betimes, for being sappy and brittle, the wind causes much havoc. A foot space is not too much to leave between the shoots in the case of Royal Muscadine, and 1½ ft. to 2½ ft. between those of Sweetwater and Black Prince varieties. Stop the shoots at the third or fourth leaf beyond the bunch, and stop all lateral shoots at the first leaf beyond the point of origin. As soon as the fruit is set, begin to thin, and thin freely. Very good Grapes can be and are grown on south walls in the south and west of England when proper attention is given the Vines. Cheap foreign Grapes has put out-of-door Vine-cultivation in this country in the background. Still, very nice bunches of Sweetwater, Black Prince, and other varieties can be obtained in most seasons from walls facing south.

Currants and other Small Fruits.—If the birds are troublesome, all fruit having attractions for them should be enclosed in nets attached to light posts, planks being employed at the ground-level, to which the edges of the nets may be attached; and if enclosures be erected 7 feet high, it is preferable to laying the nets on the plants.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Celery.—The earliest plants should now be examined, and all side growths and split leaves carefully removed; and if the weather be dry, water must be freely applied, as well as liquid-manure occasionally. No earthing-up should be done unless the plants are full-grown and heads are required for some special early occasion. Celery at this season requires from five to seven weeks to blanch properly. Keep late crops well supplied with moisture, both at the root and likewise overhead, in hot weather; and let the soil in the trenches be stirred with the hoe—a capital aid to the quick growth of plants. Late sowings should be planted-out, if this be not already done.

Coleworts should be planted-out as fast as the summer crops are cleared away, choosing if possible showery weather for carrying out the work; and if hot and dry, puddling the plants, and affording a thorough application of water when the planting is finished. Plant in drills drawn 15 ins. apart, and allow a space of 12 ins. from plant to plant. Make a sowing on a south border of the Rosette and Hardy Green Coleworts, to come into use late in the year, and early in the spring; these withstand the rigours of winter much better than those of the earlier sowings.

Endive.—Make sowings of the Batavian and curled-leaved varieties; and thin the earlier sowings as soon as these are ready, planting some of the thinnings in a shady part of the garden, affording the plants plenty of water at the time, and as often afterwards as may be necessary.

Lettuce.—Where salads are much liked, it is advisable to make small sowings at intervals of ten days, and thin out the plants as soon as they are fit to be handled, planting some of the thinnings on a border facing north, and taking care not to let the plants lack water.

Cauliflowers with heads turning in should have the latter covered by breaking down a few of the leaves over them, or by tying the leaves together. If the heads are turning-in faster than they can be consumed, pull up, bind the roots in damp moss, and hang them head downwards in a cellar or other cool place, syringing them lightly twice a day. The Walcheren and Magnum Bonum varieties, if planted on a south border on well-manured and deeply-dug land, yield small white heads that are much valued for the best table.

Tomatos.—The out-of-doors plants should have their shoots thinned and trained. They are best grown on the oblique cordon system, as by this method the fruit is well exposed to sunshine. The soil should be often stirred with the Dutch-hoe, and when the fruits are in course of development, liberal top-dressings of rotten manure should be afforded.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury

Odontoglossums newly imported.—Many thousands of newly imported plants have been distributed during the last month, and a few hints as to the proper treatment of such plants may not be out of place. These plants are usually in a greatly shrivelled condition, requiring careful management. During the first week after arrival at the purchaser's, the shading afforded should be of a heavy description, but after that period the ordinary shading of the Odontoglossum-house will suffice. The plants should not be placed directly on arrival in their pots, but stood upright in shallow boxes on some moist sphagnum. Before putting them in the boxes, let all decayed and useless stuff be removed. No over-head syringing is called for till a beginning of growth is observable. When signs of growth have become general, pot up the plants, and treat in the usual manner.

Cochlidia noetzeliana and *C. vulcanica* are pretty Orchids, now in flower in the Odontoglossum-house. The plants are of small growth, and should properly be cultivated in pans, which should be suspended from the roof, or afforded a light position on the stage. The same sort of compost as that which I recommended for Odontoglossums is suitable for Cochliodas, making it moderately firm about the roots. The repotting of any that require it may be carried out at this part of the season, when the new growths have reached a height of about an inch; but on no account should the plants be disturbed at the roots if it be not really necessary. The plants need a good supply of water when in full growth.

Celoglyne Dayana.—This beautiful species might now be afforded a shift into a larger pan or basket, if the materials need renewal. Large specimens, the compost of which may be in a sour condition, may be broken up and replanted in a rough porous compost consisting of equal parts of turfy peat and turfy loam and half-decayed leaves, a small quantity of sphagnum chopped up, and silver-sand. This plant is not a difficult one if it be given a position in a warm house,

where it can be freely syringed, and is afforded liberal supplies of water at the roots whilst making its growth. It should be kept comparatively dry while resting.

Lælia cinnabarina.—We have in this plant a parent of several handsome crosses, such as *L. Latona*, *L. c. Highburyensis*, *L. c. G. S. Ball*, *L. c. cinnabrosa*, *L. c. Hippolyta*, and others. These produce handsome spikes of flowers under good cultivation. They, as well as the parent plant, should be grown in the lightest part of the Cattleya-house, and be afforded water in abundance, and be syringed overhead when making their growth. The present affords a suitable time at which to repot or top-dress them.

FRUITS UNDER GLASS.

By T. H. C.

Peaches and Nectarines.—Do not neglect trees from which the fruit is consumed, but syringe them at least once daily so as to keep the foliage free of insect pests; and be as particular as formerly in applying water to the borders whenever necessary, with or without manure, according to the vigour and cropping capabilities of the trees. Leave the ventilators open continually to their widest extent, and shut off artificial heat. Cut out all superfluous shoots, so that those left for next year's fruiting may have the full benefit of sunshine and air.

Melons.—At this season newly planted-out Melons make rapid growth, and in order that this may not be of too soft and unfruitful a nature, the soil should consist of a good, fairly heavy loam, to which is added a small quantity of mortar-rubble and charred garden refuse, but no manure of any kind. In a soil of the above kind the bine will grow of a moderate degree of strength, and the flowers will set readily. When the fruits are swelling, the subsequent treatment will consist of rich top-dressings applied occasionally, plenty of weak liquid-manure, and an occasional sprinkling of an artificial fertiliser, which should be immediately followed by an application of water. Do not apply water quite close up to the stems, especially if the soil be retentive, as if this be coupled with imperfect ventilation, damping-off just at the soil-level may occur. Should decay set in, dust the affected part with quicklime or charcoal powder, and repeat the application till the tissues have dried up. Ventilate freely in fine weather, close early with plenty of atmospheric humidity, and syringe the plants thoroughly. The temperature may rise at closing time to 90°. In order to prevent red-spider from getting a footing on the plants, syringe the foliage vigorously with tepid water; and if aphides appear on the plants, employ XL-All. Let seeds be now sown for affording plants for fruiting in the months of September and October. Plants carrying fruit of full size should be afforded water cautiously, or splitting may occur. Make sure that the fruits are supported in nets or on square pieces of wood. Do not be in haste to dry off the borders which contain plants having ripening fruit, but apply as much water as will bring to maturity naturally the fruits which are a few days behind the earliest in point of ripeness. Ripe fruits may be kept in good condition for a considerable length of time by being placed in a dry, airy fruit-room, choosing perfectly sound specimens.

Cucumbers.—Let all fruits be cut when of a serviceable size, not keeping them on the plants till full-grown. The variety Improved Telegraph is an abundant cropper, so much so as to make it necessary to thin the fruits in the early stages. Apply rich top-dressings as soon as the roots come to the surface, and, except in the case of very young plants, apply water daily if necessary, and occasionally afford liquid-manure. Remove some of the old bine and foliage without causing a check; that is, do this little and often, laying-in young shoots to take the place of the old. Afford air whenever the weather is favourable, maintain a humid air in the house or pit at all times, and syringe the foliage early in the morning and at closing time. Keep a temperature at night of 70°, and by day 10° to 15° higher. Deal with insect pests as advised for Melons.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the **EDITOR**, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JULY 4	Société Française d'Horticulture de Londres, meet. Rose and Horticultural Shows at Sutton and Walton-on-Thames.
TUESDAY, JULY 7	Royal Horticultural Society's Committee. Lecture on "Hardy Irises." Wolverhampton Floral Fête (three days). Rose and Horticultural Shows at Gloucester and Harrow.
WEDNESDAY, JULY 8	Rose and Horticultural Shows at Farnham, Hereford, Croydon, Stevenage, and Ealing.
THURSDAY, JULY 9	Rose Shows at Bath, Eltham, and Woodbridge.
FRIDAY, JULY 10	Royal Botanic Society: Lecture. Rose Show at Ulverston.
SATURDAY, JULY 11	Royal Botanic Society Meet. Rose and Horticultural Society at Manchester Botanical Gardens.

SALES FOR THE WEEK.

FRIDAY, JULY 10—Orchids in great variety, by order of Messrs. Sander & Sons; and private collection, at 67 & 68, Cheapside, E.C., by Protheroe & Morris, at 12 30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—63.2°.

ACTUAL TEMPERATURES:—

LONDON.—July 1 (6 P.M.): Max. 78°; Min. 58°.

July 2 (Noon): Fine; warm, 94°.

PROVINCES.—July 1 (6 P.M.): Max. 73°, Eastern Counties; Min. 55°, Shetland.

A WEEK ago no one, in the Roses. Home Counties at any rate, would have ventured to predict the occurrence of such a good show of Roses as was to be seen in the Temple Gardens on Wednesday last. True there were some blank places, true the quality was not of surpassing excellence, but for all that it was very good indeed. The National Rose Society is so whole-hearted, and its officers so energetic and so courteous, that they deserve to succeed; and they have done so. The weather was all that could be desired, though towards midday the "Princesses" and "Countesses," the "Souvenirs" and the rest of them began to show signs of distress, and made us wonder what they would look like if a second day's trials were superimposed on the first. The details of the Show are duly chronicled in our report. We can only

notice here some special features of interest. The first note is one of surprise at the excellence of the exhibition as a whole, after such a period of stress as we have gone through. The next note is one of great satisfaction that the reign of ugly boxes is doomed. For specialists' purposes, or for the adjudication of new Roses, they may last a little longer, but no one who saw the beautiful effect produced by showing Roses with long stems in vases will care to prolong the stereotyped mode of exhibiting. The "new" Roses had a tent all to themselves, but we cannot say they deserved such a distinction.

In the Champion class in the Nurserymen's classes, Messrs. HARKNESS were placed first, probably because on careful scrutiny individual blooms may have been found rather weaker in the principal competing group of Messrs. B. CANT & SONS. In the Amateurs' section Mr. LINDSELL took first honours, followed by Mr. ORPEN. The Challenge Cup for Teas and Noisettes was won by Mr. A. HILL GRAY. The groups of garden Roses were mostly too heavy and dense to be quite satisfactory.

The table decorations were very charming. The first prize went to Mrs. ORPEN, who showed a very simple and refined group of single Roses, intermixed with Adiantum and trails of Myrsiphyllum—not very original in conception, but delightfully carried out. Mrs. HOLLAND took the second prize with vases of Mrs. Grant Rose, intermixed with long trails of bronzy Selaginella. For further details we must refer to our report; but in the meantime we may offer our congratulations to the Society, and our thanks to its officers, who were assisted on this occasion by the staff of the Royal Horticultural Society.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, July 7, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 P.M. Lectures on "Hardy Irises" will be given by Miss ARMITAGE and Mr. CAPARENE, at 3 o'clock.

At a General Meeting of the Society held on Tuesday, June 9, 132 new Fellows were elected, amongst them being the Earl of MUNSTER, the Countess of LUCAN, Sir ALGERNON WEST, K.C.B., Sir WILLIAM EDEN, Bart., Lady LIDDELL, Lady MEYRICK, and Lady YOUNG, making a total of 900 elected since the beginning of the present year.

THE OLDEST HERBARIUM.—Prof. O. PENZIG, of Genoa, is now in Rome, studying the ancient herbarium of Gherardo Cibo, made before 1540. It is a very interesting and well-preserved collection, and has been found in the Biblioteca Angelica in Rome. If we except the mummy wreaths of Egypt, this may be taken to be the oldest herbarium in the world.

NEW PUBLICATIONS.—*Handbuch der Laubholz-Benennung... bearbeitet von L. BEISSNER, E. SCHELLE, and H. ZABEL.* Berlin: PAUL PAREY. A valuable list of hardy shrubs and trees, to which we must refer shortly. *Orchids, their Culture and Management.* By W. WATSON and H. J. CHAPMAN. L. UPCOTT GILL, Bazaar Office, Drury Lane.

THE COMMISSARIAT AT THE ROYAL HORTICULTURAL SOCIETY'S MEETINGS.—We have received various communications on this subject, but as they seemed rather to be matters of

domestic concern than of public interest, we referred the writers to headquarters. The Holland House show has brought us further remonstrances, so that we feel constrained to call the attention of the authorities thus publicly to the matter. The complaint is that the charges are excessive and the quality not adequate.

SIR DANIEL MORRIS, K.C.M.G.—Those who remember Dr. MORRIS's strenuous work at Kew and at the Royal Horticultural Society will be gratified to learn of the honour that has been conferred on him. Sir DANIEL has shown such whole-hearted energy in the development of the agricultural resources of British Honduras, and more recently of the West Indies, that it is satisfactory to find the Government recognising in this way the efficiency of their officer. Sir DANIEL's chief aim has been to enforce the lesson that the agricultural welfare of the Colonies is to be increased mainly by the application of the resources of science. To that end he is leaving no means untried to promote the diffusion of knowledge, and to teach the cultivators the best means of turning their resources to account.

THE WINDSOR ROSE AND HORTICULTURAL SHOW, we are informed by Mr. W. TITT, Honorary Secretary, was postponed from last Saturday, owing to lateness of season, and will be held to-day, July 4.

SWEET PEAS.—It is estimated by a correspondent of the *Florists' Exchange* that the crop grown in America amounts to 500 tons annually. One firm at Santa Clara, California, has about 300 acres devoted to this purpose, and harvested recently 100 tons of seed.

"AMATEUR GARDENING."—We have pleasure in welcoming the thousandth number of *Amateur Gardening*, which is a little paper very useful to those for whom it is intended, especially considering its low price. It celebrates its thousandth appearance by the publication of a coloured plate of hardy Gaillardias; and there are various other illustrations.

THE GREAT EASTERN RAILWAY COMPANY'S TOURIST GUIDE TO THE CONTINENT.—This well-known guide-book, illustrated by PERCY LINDLEY, comes to us with new illustrations and particulars of tours in North Germany and Tyrol, Norway, Denmark, Sweden, and other holiday haunts, and is therefore as good as or even better than usual. The pictures are charming, and the maps useful for the intending tourist.

ASPLENIUM EBENOIDES.—An interesting instance of a Fern hybrid's bearing upon botanical science is found in the case of the rare Fern known as *Asplenium ebenoides*. In all botanical manuals this is set down as a good species, but there has always been a suspicion that it is a natural hybrid—a theory which its extreme rarity and irregular occurrence seemed to bear out. Its indicated parents were *Asplenium ebenum* and the Walking Fern (*Campytosorus rhizophyllus*), members of totally different genera. Acting on this suggestion, Miss MARGARET SLOSSON recently planted sections of the prothallia of these two Ferns together, and had the satisfaction of raising, not *Asplenium ebenum* or the Walking Fern, but true *Asplenium ebenoides*. Thus, after nearly fifty years, this Fern has been proved to be really a hybrid. W. M. Clute, "*Fern Bulletin*."

PEACH BLISTER has, if we may judge from the numerous specimens that have reached us, been unusually prevalent this year. It is the work of a fungus, *Exoascus deformans*, which causes swellings and deformity of the leaves. Nothing can be done at the time. It is one of those many cases where prevention is far better

than cure so called. Spraying with Bordeaux Mixture in spring, before the leaves expand, affords the best chance of success. It must be remembered that the mixture is apt to burn the young leaves, hence it should be used before they expand.

"THE WORLD'S WORK."—The summer number of *The World's Work* contains an article on the Day's Work in Kew Gardens, illustrated from photographs. The account is popular rather than technical, but aims at giving an idea of the work done in the several departments. This will perhaps surprise the casual visitor, who thinks of the Gardens as merely an improved form of

glaucous leaves and racemes of white bell-shaped flowers; *Ozothamnus thyrsoides*, apparently very near to *Helichrysum rosmarinifolium*, a shrub with linear revolute leaves and numerous cylindric white flower-heads, spreading at the tops like little stars, and *Deutzia candidissima*.

MR. DUTHIE.—We learn that this gentleman has retired from the post of Director of the Botanical Department of Northern India, and Director of the Botanic Garden, Saharunpore.

ACETYLENE LIGHT AS A MOTH-TRAP.—A correspondent in France recently inquired for particulars relating to the use of acetylene lamps

put in action at dusk, preferably on dark nights. On the first night one lamp caught 4,600 pyralids and 218 moths of other kinds. During July the lamps average 3,400 insects a lamp a night. The expense of the lamps is reported to have been 2 cents a night each, or 2½ cents a night an acre. It is said that this method of catching noxious insects is more efficacious than any method which has been tried before. Special cases require special remedies, but that is no reason why moths should be caught indiscriminately, many friends as well as enemies being thus destroyed. It is never safe to use moth-traps unless the "catch" is examined by an entomologist to determine of what it consists.

THE ROTHAMSTED EXPERIMENTAL STATION.—On June 18 a party of about eighty farmers from Essex, conducted by Mr. T. S. DYMOND, of

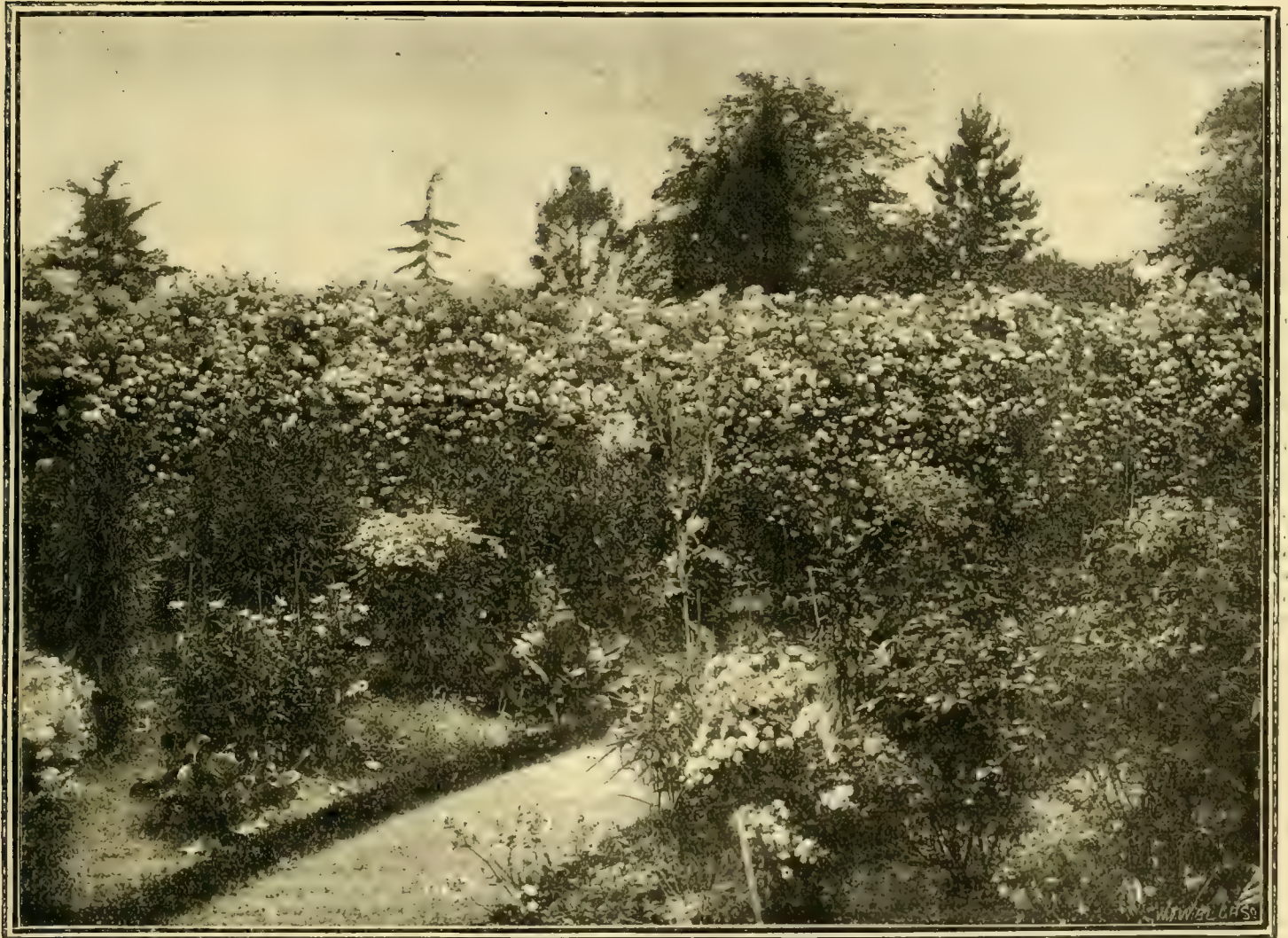


FIG. 4.—HEDGE OF AYSHIRE ROSES IN THE GARDEN ATTACHED TO MESSRS. B. R. CANT AND SONS' NURSERY, COLCHESTER.
(Photographed by F. Mason Good.)

recreation ground, and the illustrations of the Director's room and of the laboratory will give him a glimpse into portions inaccessible to the general public, who have no idea of the amount of work done at Kew in developing the resources of our colonies and in promoting the sciences on which all successful cultivation depends. Other articles in this July number deal with Fruit and Flowers in Guernsey (illustrated), and with Where Farming Pays in England, which is a brief account of work in the Fen district.

MORE CORNISH PLANTS.—Messrs. GAUNT-LETT, of Redruth, send us flowering specimens of *Olearia macrodonta*, *Escallonia Langleyensis*, mentioned in our last issue, also of *Andromeda cassinaefolia*, now called *Zenobia speciosa*, with

for the capture of cockchafers. The following extract may be suggestive:—

WHOLESALE SLAUGHTER OF MOTHS.—The vineyards in the wine-growing districts of Beaujolais, France, have suffered greatly from the depredations of night-flying moths, among which the pyralid was the most prominent. The following method of killing these insects has been adopted, and *The Electric Review* pronounces it a success. "Calcium carbide and water are combined for the generation of acetylene gas, and burners giving a light of ten-candle-power are mounted above each generator. Six ounces of carbide is said to be enough to keep the flame going for as many hours. Eight inches below the burner is adjusted a shallow circular dish, 20 inches in diameter. A little water is poured into this, and a thick film of kerosene is deposited on the surface of the other fluid. Thus is completed a trap to which the moths are attracted by the flame. According to the authority just quoted, these generators are set up about 550 yards apart, and are

the Essex County Laboratories, visited the Rothamsted Experimental Station, and were taken round the plots by the Director and the staff. Visits were also made on the 19th by a similar party of about forty farmers from east Herts, and on the 27th by a small party of the members of the German Agricultural Society visiting England for the Royal Agricultural Society's show. The plots at the present time are particularly interesting, especially the Broadbalk Field, which is carrying its sixtieth successive Wheat crop, and the permanent grass-land, which has been under the same treatment for the last forty-eight years.

THE CANTERBURY GARDENERS' SOCIETY will hold a Chrysanthemum Show on November 11 and 12.

ROSES, AND HOW TO GROW THEM.

If readers do not know how to grow Roses, the inability does not arise from want of preceptors. The actual number of Roses in general cultivation is not so very much greater than the number of teachers. This being so, it follows that there must be differences in quality of the would-be instructors. Some are specially good; some are the products of actual experience and judgment; others are mere compilations, in which the smell of paste overlays the fragrance of the Rose. Some excel in particular departments, some treat the matter technically, and some lighten the details with wit and humour, and some overload their pages with trite banalities and worn-out sentimentality.

There is a great deal of sound common sense in Miss [P] Violet P. Biddle's little book,* and no superfluous verbiage. The varieties selected for comment are among the best of their kind, and the reader is not bewildered by lengthy catalogues. The author has not studied her *Chronicle* lately, or she would not mis-spell "Félicité-Perpetué"; and a fuller index is desirable. Mr. Horace Wright contributes a chapter descriptive of some of the best of the more recently introduced Roses.

So many are the books about Roses that it is difficult to find distinctive titles for them. Mr. John Weathers has selected one to which no objection can be taken, for we have yet to see a Rose which is not beautiful.† Mr. Weathers enumerates the leading varieties under the headings to which they belong, such as Hybrid Perpetuals, Teas, Hybrid Teas, and so forth, and indicates the methods of cultivation and pruning. Historical details, which are of little concern to the ordinary Rose-grower, but which are so full of interest to the intelligent student, are not forgotten. To him also the details of the how, why, and because of pruning will be very serviceable. A general index, and a special index of the Roses mentioned in the text, are given, and no fewer than thirty-three coloured plates are provided, in which the colour of the flowers is more correctly indicated than is often the case; but the rosarian will be reminded of the extreme difficulty experienced in attempting to reproduce the exquisite shades of colour and the texture of a Rose.

The tenth part of the reissued *Century Book of Gardening* (George Newnes) contains an article on "Exhibition Roses" by Mr. Edward Mawley. Nothing further need be said to commend it to the reader.

The Rose Garden. By William Paul, F.L.S. Tenth edition. (London: Simpkin, Marshall, Hamilton, Kent & Co., 4, Stationers' Hall Court.) We learn that it is fifty-five years since this well-known book first appeared, and now, with further revisions and additions, it is brought forward for the tenth time. It is not greatly altered in general scheme and scope, but there are new articles, or rather re-written ones, on the botany and entomology of the Rose; new varieties are described, and mention of certain older ones is withdrawn. The illustrations have increased in number, and the coloured plates show us some of the newest sorts of Roses. The book is such an old friend to all rosarians, that to mention its reappearance is a sufficient recommendation—to praise it would be an impertinence, but we cannot help saying it is the best of its class.

Of the *Livre d'Or des Roses* (Paris: Lucien Laveur) we propose to speak on another occasion; suffice it to say now that it consists of a series of quarto coloured plates with illustrative text, in course of publication at regular intervals.

* *Roses, and How to Grow Them*, by Violet P. Biddle. (C. Arthur Pearson.)

† *Beautiful Roses*. By John Weathers. (Simpkin, Marshall & Co.)

SOCIETIES.

THE NATIONAL ROSE. (METROPOLITAN EXHIBITION.)

JULY 1.—The annual exhibition of the National Rose Society was held in the Inner Temple Gardens, Thames Embankment, London, on Wednesday last, in glorious weather. The tents employed were the same as those of last year, and measured 460 feet in length and 40 feet in width. The show was so much better than the most sanguine could have anticipated a week ago, that few were inclined to criticise the blooms adversely; but it is doubtless true that although they were equal, or nearly equal, to those exhibited a year ago, the general standard was below that of the National Rose Society in a propitious season.

No Gold Medal was awarded to new varieties, but four of those exhibited were commended. The arrangements worked very smoothly in the hands of the courteous honorary Secretary, Mr. Ed. Mawley, assisted by Mr. S. T. Wright, Mr. Reader, and Mr. Thos. Humphreys, officers of the Royal Horticultural Society.

NURSERYMEN. MIXED ROSES.

The Champion Trophy and Gold Medal of the Society accompanied the 1st prize for—

Seventy-two blooms distinct varieties.—There were five exhibits in this large class, as against five last year. The 1st prize was won by Messrs. HARKNESS & Co., Hitchin, Herts. The varieties were: *Back row*, Caroline Testout, very fine; Etienne Levet, White Lady, Helen Keller, Bessie Brown, Dupuy Jamain, Cleopatra, Duke of Teck, Mrs. R. Garrett, La France de '89, Maman Cochet, Rev. A. Cheales, Boadicea, Dr. Sewell, Mons. Noman, Gustave Piganneau, Duchesse de Vallambrosa, A. K. Williams, Lady M. Fitzwilliam, François Michelon, Frau Karl Druschki, Marquise Litta, Marchioness of Downshire, and Ulrich Brunner. *Centre row*, Grand Mogul, Souvenir de S. A. Prince, Prince Arthur, Souvenir de Président Carnot, Madame Delville, Mrs. Ed. Mawley, Duke of Connaught, White Maman Cochet, Mildred Grant, Mrs. John Laing, E. Y. Teas, Jean Ducher, General Jacqueminot, Madame Gabrielle Luizet, Horace Vernet, Mrs. W. J. Grant, Suzanne-Marie Rodocanachi, Madame Jules Grolez, Duke of Edinburgh, Marchioness of Londonderry, Comte de Raimbaud, Laurence Allen, Souvenir de Pierre Notting, and Golden Gate. *Front row*: Souvenir d'un Ami, Xavier Olibo, Souvenir d'Elise Vardon, Duke of Wellington, La France, Queen of Queens, Madame Hoste, Earl of Dufferin, Madame de Willemoz, Viscountess Folkestone, Pride of Waltham, Comtesse de Ludre, Madame Cusin, Kaiserin Augusta Victoria, Hon. Edith Gifford, Countess of Rosebery, Margaret Dickson, Marie Baumann, Lucile Clara Watson, Exposition de Brie, Madame Hausman, exceedingly bright, Countess of Caledon, and Ulster. The 2nd prize exhibit, from Messrs. B. R. CANT & SONS, The Old Rose Gardens, Colchester, was not much inferior to the one already described, but it was a little marred by several weak specimens. The following varieties were amongst those represented in best condition:—Le Havre, White Lady, Countess Oxford, Papa Lambert, Empress Alexandra, Mildred Grant, Bessie Brown, Mrs. Ed. Mawley, Countess Caledon, Rubens, Mrs. John Laing. The 3rd prize was won by Messrs. FRANK CANT & Co., Braiswick Rose Gardens, Colchester, who had an excellent bloom of the new white Rose Frau Karl Druschki. The unsuccessful exhibitors were Messrs. D. PRIOR & SON, Colchester; and Messrs. A. DICKSON & SONS, Newtownards, Ireland.

Forty distinct varieties (trebles).—There were four exhibits in this class, and the number last year was three. This year therefore, the class contained 480 blooms. The 1st prize was won by Messrs. B. R. CANT & SONS, and amongst the varieties shown, those following appeared most effective:—A. K. Williams, Bessie Brown, Helen Keller, Mrs. W. J. Grant, Mildred Grant, Frau Karl Druschki, Mrs. Sharman Crawford, Ulrich Brunner, Medea, Mme. Gabrielle Luizet, Hélène Guillot, and Prince Arthur; 2nd, Messrs. ALEX. DICKSON & SONS, Ltd.; and 3rd, Messrs. F. CANT & Co.

Forty-eight Blooms, distinct varieties.—Four competitors entered in this class, and generally the blooms were of satisfactory quality. Messrs. G. & W. H. BURCH, Peterborough, won 1st place, showing the following varieties: *Back Row*, Caroline Testout, Marquise Litta, La France, Tom Hood, Viscountess Folkestone, Marchioness of Downshire, Margaret Dickson, François Michelon, Mrs. John Laing, Countess of Oxford, Charlotte Guillemot, Gustave Piganneau, Clio, Mrs. W. J.

Grant, Denmark, and Her Majesty. *Centre Row*, Ulric h Brunner, Lady Mary Fitzwilliam, Rev. Alan Cheales, Bessie Brown, Horace Vernet, Mrs. Ed. Mawley, Duke of Edinburgh, Luciole, Frau Karl Druschki, Madame Cadeau Ramey, Ulster, White Lady, Duchess of Bedford, Medea, Marie Baumann, and Bladud. *Front row*, Antoine Rivoire, Augustine Guinosseau, Xavier Olibo, Lady Clanmorris, Madame Hoste, Countess of Caledon, Anne Oliviere, Comte Raimbaud, Mrs. Sharman Crawford, Dr. Sewell, Rubens, Exposition de Brie, Souvenir de Président Carnot, Gabriel Luizet, Maman Cochet, and Madame Eugène Verdier. Messrs. HUGH DICKSON & Co., Royal Nurseries, Belfast, had a pretty collection of blooms of moderate size but good colour, and were awarded 2nd prize; 3rd, J. BURRELL & Co., Cambridge.

Twenty-four blooms, distinct varieties.—In this class, in which the selection is much less wide, the blooms shown are frequently amongst the best in the show. On this occasion a very good collection was exhibited by Mr. GEO. MOUNT, of Canterbury (1st), his selection of varieties being as follows:—*Back row*, Caroline Testout, very large sized, good blooms; Ulrich Brunner, Mildred Grant, Xavier Olibo, Frau Karl Druschki, Mrs. J. Laing, Marquise Litta, and Bessie Brown;—*Centre row*, Prince Arthur, Killarney, General Jacqueminot, La France, Lady M. Beauclerk, an exceedingly pretty pink-coloured Rose with broad petals, having crimped or frilled margins; Madame C. Ramey, Duke of Edinburgh, Lady Mary Fitzwilliam. *Front row*, Mrs. W. J. Grant, Souvenir de Président Carnot, Mrs. Sharman Crawford, Viscountess Folkestone, Margaret Dickson, Kaiserin Augusta Victoria, Madame Gabrielle Luizet, Mrs. Ed. Mawley; 2nd, Mr. CHAS. TURNER, Royal Nurseries, Slough; and 3rd, Mr. THOS. RIGG, Rose-grower, Caversham, Reading. There were six exhibitors.

Twenty-four distinct varieties, trebles.—The 1st prize in this class went to Slough, Mr. CHAS. TURNER having won with a very creditable collection; 2nd, Mr. GEO. MOUNT; and 3rd, Messrs. HUGH DICKSON & Co., Ltd. The exhibits in this class were of good quality throughout.

TEAS AND NOISETTES.

The principal class for Teas and Noisettes called for 24 single trusses of distinct varieties, and the 1st prize was won by that distinguished cultivator of Tea Roses, Mr. GEO. PRINCE, of the Longworth Nurseries, Berkshire. His selection of varieties was as follows: his *back row* commenced with a grand bloom of Mrs. Ed. Mawley, of very large size and capital colour, which obtained the Society's Silver Medal for the best Tea or Noisette bloom in the show; continuing, the varieties were White Maman Cochet, Souvenir d'un Ami, Medea, Muriel Grahame, Cleopatra, La Boule d'Or, and Maman Cochet. *Centre row*: Mme. Hoste, Souvenir de S. A. Prince, Lady Roberts, Princess of Wales (very poor), Princess Beatrice, Mme. de Watteville, Empress of Russia, and Devonians. *Front row*: The Bride, Countess de Panisse, Golden Gate, Cornelia Koch, a very pretty bloom of Comtesse de Nadaillac, of moderate size, Alba rosea, Souvenir de Pierre Notting, and Bridesmaid. Messrs. D. PRIOR & SON, who were 2nd, had good blooms of Maman Cochet, Cleopatra, Rubens, and Innocente Pirola. 3rd prize, Messrs. FRANK CANT & Co. It is commendable to the variety that in each of these collections the best bloom was one of the excellent Mrs. Mawley, named in compliment to the wife of the respected Honorary Secretary to the Society.

Twelve blooms, distinct varieties.—Messrs. J. BURRELL & Co., Howe House Nurseries, Cambridge, won 1st prize in this class from Mr. JNO. MATTOCK, New Headington, Oxford. Messrs. J. BURRELL, who had much greater variety in colour, showed Mrs. Ed. Mawley, Souvenir d'Elise Vardon, Souvenir de Pierre Notting, Boadicea, Muriel Grahame, Catherine Mermet, Souvenir de S. A. Prince, Souvenir d'un Ami, Empress Alex. of Russia, The Bride, Comtesse de Nadaillac, and Lady Roberts. In the 2nd prize collection, Medea, Cornelia Koch, Mme. Hoste, and other white and cream-coloured varieties were very pretty and good.

ROSES IN VASES.

There were several classes for Roses cut with long stems, and exhibited in vases, but not so many as we think would be appreciated by visitors.

Fourteen distinct varieties, three Blooms of each.—There were only two exhibits in this class, and the 1st prize was won from Mr. GEO. PRINCE by Messrs. D. PRIOR & SONS. The varieties that had the best effect, staged in this manner, in vases, were Maman Cochet, Mrs. Ed. Mawley, Souvenir de S. A. Prince, Marie Van Houtte, Caroline Kuster, Cleopatra, and The Bride. Mr.



FIG. 5.—ROSE MRS. JOHN LAING.

Showing the effect of tying out a variety that makes long flexible shoots. The plant, of which only a portion is represented, carried fifty-nine buds and blooms.
(From a photograph by G. E. Low, Dublin.)

PRINCE's best treble consisted of three uncommonly fine blooms of the variety Mrs. Ed. Mawley; Medea was very good in colour, as was Bridesmaid; Madame Hoste and Muriel Grahame also were of commendable quality.

Twelve distinct varieties.—In the collections of twelve blooms, only varieties mentioned in the National Rose Society's Catalogue of Exhibition Roses were permitted, and not more than six varieties of Teas or Noisettes. Seven blooms were shown of each variety, and they were arranged equally around the vases, so that they faced each direction. There were four very good exhibits, and the finest was one from Mr. GEORGE MOUNT, who had good blooms upon thick stems, bearing healthy well-developed foliage as well as flowers. His varieties were Ulrich Brunner, Liberty, Mrs. W. J. Grant, Mrs. Sharman Crawford, Clio, General Jacqueminot, Mrs. Jno. Laing, Caroline Testout, Madame Luizet, Margaret Dickson, Marquise Litta, and another. The 2nd prize was won by Mr. GEORGE PRINCE, his best blooms being Bessie Brown, Anna Olivier, Marquise Litta, and Mrs. W. J. Grant; 3rd, Messrs. R. HARKNESS & CO., Hitchin, Herts.

Nine distinct varieties of Teas and Noisettes, exhibition varieties.—Mr. GEO. PRINCE was unchallenged in this class, and staged nine fine bouquets of seven blooms each, in vases, upon a black velvet ground cover, that usually accompanies the Longworth exhibits. His centrepiece was a bouquet of Mrs. Ed. Mawley, and the best remaining ones were Madame Hoste, Rubens, Medea, and Hon. Edith Gifford.

GARDEN ROSES.

The glorious "garden" Roses, as they are termed, which include all those varieties that excel in free-flowering qualities, and are therefore more decorative in the gardens, though less perfect when cut as single specimens, than the exhibition varieties, were shown in capital condition. Several are figured in our illustrations this week.

Thirty six distinct varieties, not fewer than three trusses of each.—In this exacting class, Messrs. PAUL & SON, the Old Nurseries, Cheshunt, Herts, won 1st prize in this class, and exhibited a collection of excellent quality, and gorgeous effect. We can only mention a few of the most effective varieties, which included Una, a beautiful single white hybrid Briar, more than 3 inches across; Madame A. Chatenay, Camoens, Madame Pernet Ducher, Dawn (beautiful), Marquise de Salisbury, R. macrantha, W. Allen Richardson, Prolific, a pink-coloured Moss Rose; Boule de Neige, Purple East, rambler; Reine Olga de Wurtemberg, one of the very best; Madame Jules Grolez, and Liberty. The 2nd prize collection was one from Messrs. FRANK CANT & CO. In this stand the semi-double crimson flowers of Fabier had an uncommon effect; Liberty and Killarney, Lady Battersea and Gustave Regis, Irish Glory and Soubrette Messiny,

Lip, Leuchstern, The Garland, and Red Damask. 2nd Messrs. PAUL & SON, Cheshunt.

Each exhibit of garden Roses was arranged on a separate table, so that the visitors could walk all round each—a very appreciable improvement upon the conditions on a former occasion.

ROSES IN POTS.

There was a class for Roses in pots, but the result was poor, there being but one exhibit. Mr. C. TURNER, of Slough, however, staged a collection, and was awarded 1st prize.

MEDAL ROSES.

The Society's Gold Medals for premier blooms shown by nurserymen were awarded as follows. For the best H.T. Rose, Bessie Brown, shown by Messrs. D. PRIOR & SON, in his exhibit of seventy-two Roses; the best H.P., Mrs. John Laing, exhibited also by Messrs. D. PRIOR & SON; and the best T., Mrs. Edward Mawley, exhibited by Mr. PRINCE.

OPEN CLASSES.

Twelve Hybrid Teas, distinct—1st, Messrs. D. PRIOR & SON, Colchester, with Mildred Grant, Robert Scott, Bessie Brown, good in general this year; Lady Mary Fitzwilliam and Countess of Caledon were the best developed flowers. 2nd, A. DICKSON & SONS, Ltd. The flowers of Mildred Grant, Alice Lindsell, Lady Clanmorris were very much finer than the rest of the box; 3rd, Messrs. FRANK CANT, Braiswick, Colchester. The examples of Caroline Testout and Mildred Grant were good.

Twelve Blooms of any White or Yellow Rose.—1st, Messrs. ALEXANDER DICKSON & SONS, Ltd., with Bessie Brown, a lot of flowers in the greatest perfection; 2nd, Mr. JOHN MATTOCK, New Headington, Oxford, with Medea, a variety seldom met with in other collections this year. There were three competitors.

Twelve Blooms of any other Rose than white or yellow.—1st, Messrs. ALEX. DICKSON, with blooms of Mrs. W. J. Grant, very fresh and bright-looking, growth and foliage vigorous; 2nd, Mr. CHAS. TURNER, Royal Nurseries, Slough, with that fine variety Mrs. John Laing; Mr. GEO. MOUNT, Canterbury, and Messrs. D. PRIOR & SON, Colchester, were equal 3rds. There were ten exhibits in this class.

Nine Blooms, distinct—1st, Messrs. A. DICKSON & SONS, Ltd., with very fine blooms of Mildred Grant, and there was a remarkable absence of weak blooms in the exhibit; 2nd, Messrs. G. BUNYARD & CO., Royal Nurseries, Maidstone, with generally very fine blooms of Frau Karl Druschki and Robert Scott, the latter a very full light pink flower, outer petals of which reflex; 3rd, Messrs. P. R. CANT, with Frau Karl Druschki. There were three competitors.

NEW ROSES.

Twelve Blooms of new Roses.—1st, Messrs. B. R. CANT & SONS, The Old Rose Gardens, Colchester. Nice flowers



FIG. 6.—THE ROSE ARCADE AT CLAVERTON MANOR, NEAR BATH.

of Alice Lindsell, of a blush tint and pretty form; Pele von Godesberg, creamy white, petals apparently too few to make a fine flower; William Askew, bright pink, a globular bloom fairly full, with a shell petal; Frau Peter Lambert, flower pink with a yellowish tint, and outer petals which reflex; Mildred Grant, very pale blush; Robert Scott, a shell-petalled, pale pink bloom; other varieties were not at their best. 2nd, Messrs. F. CANT & CO., Braiswick, Colchester, whose best flowers were Alice Lindsell, Boadicea, Edith D'Ombra, Mildred Grant, Souvenir de Jean Ketten. Equal 3rds were granted to Messrs. A. DICKSON & SONS, Royal Irish Nurseries, Newtownards; and to Messrs. PAUL & SONS, Cheshunt. There were four competitors.

New Seedling Roses, or Distinct Sports.—Card of Commendation was awarded to a seedling named Mrs. Orpen, won by O. G. ORPEN, Esq., Colchester, a very large single-flowered variety, with broad petals of a light pink hue; to climbing Rose Maharajah, a deep velvety crimson single-flowered variety, shown by Messrs. B. R. CANT & SONS; and to a climbing Polyantha Rose Blush Rambler, shown by the same exhibitors as the last-named; it is a profuse bloomer, the flowers coming in terminal trusses; and to Rosa polyantha Madame Lavasseur, shown by Mr. W. J. WOODS, Swatheling. Exhibits in this class were few.

DECORATIVE CLASSES.

Three Sprays of Roses.—No 1st prize was awarded, but Mr. GEO. MOUNT, Canterbury, was placed 2nd, with compactly formed sprays of white, crimson, and pink-coloured varieties, rather stiff and inelegant; 3rd, Miss JESSIE P. LAUGHTON, Raymead, Hendon, the sprays consisting of Alice Brunner, Souvenir de Catherine Guillot, &c. Four persons competed.

Twelve varieties of Single-flowered Roses.—1st, Messrs. G. COOLING & SONS, Bath, with large bunches, set up with plenty of Rose foliage. We noted the yellow Austrian Brier, The Lion, Leuchtstern, single white rugosa moschata alba, and Irish Glory, a flower of a rosy-crimson hue, &c. 2nd, Messrs. PAUL & SON, Cheshunt, Herts; the display consisted of massive bunches of leafy shoots and blossoms, including R. rugosa alba, Brenda, a bright pink flower; The Lion, a purplish-crimson; R. rugosa, Paul's large flowered; Andersoni, with crumpled petal, pink Carmine Pillar, &c.

Nine distinct varieties of Button hole Roses.—1st, Mr. G. PRINCE, Longworth, Berks, whose exhibit consisted of bunches of about eight blooms in the bud state, of the varieties Innocente Pirola, Marie Van Houtte, Papillon (pink), Ma Capucine, Souvenir de S. A. Prince (one of the choicest vars. for a button-hole), Souvenir de J. B. Guillot (crimson), very bright and nice; Madame Perny, a pretty yellow filbert-shaped bud. Mr. JOHN MATTOCK, was 2nd, and among his varieties were nice blooms of Jas. Watt, a blush-white; Souvenir Catherine Guillot, Cecile Brunner, a small flower more useful in the open state than as a bud; Papa Gontier, a crimson filbert-shaped bud, and Mme. Falot. There were only two exhibits in this class.

An Arch of Roses.—1st, Messrs. PAUL & SON, Cheshunt, one-half of the arch being covered with Tea Rambler, semi-double pink-flowered variety, and Helene, similar in form, but of a lighter shade of pink. The display was formed of long shoots bearing flowers placed in vessels of water; 2nd, Mr. G. PRINCE, with climbing white Pet and Queen Alexandra; 3rd, Mr. J. MATTOCK.

AMATEUR SECTION.

CHAMPION TROPHY CLASS.

Thirty-six blooms, distinct varieties.—1st prize, E. B. LINDSELL, Esq., Hitchin, Herts, whose best blooms were Mrs. Grant, Muriel Grahame, splendid; Lady M. Fitzwilliam, White Lady, a grand flower; Marquise Litta, A. K. Williams, Mildred Grant, Prince Arthur, Alfred Colomb, Ulster, Horace Vernet, Dr. Sewell, F. Michelson, Duchess of Portland, and Madame Gabrielle Luizet, a really fine array of good flowers. 2nd, O. G. ORPEN, Esq., Colchester, whose finest blooms were, Antoine Rivoire, Mildred Grant, Souvenir de S. A. Prince, Maman Cochet, Bessie Brown, Catherine Mermet, Cleopatra, Ernest Metz, Lady Mary Fitzwilliam, and Ulrich Brunner. 3rd, CONWAY JONES, Esq., Huccote, Gloucester. There were five entries in this important class, and the standard of quality for the season was high.

For twenty-four varieties, 1st, ALFRED TATE, Esq., Leatherhead, Surrey, who showed Comtesse de Naillac, Mrs. Grant, Horace Vernet, Marquise Litta, and Mrs. Ed. Mawley, in very fine condition; 2nd, THOS. B. GABRIEL, Esq., Woking, whose Souvenir d'Elise Vardon, Mrs. Grant, Golden Gate, General Jacqueminot, and Mrs. J. Laing, were the best; 3rd,

equal prize for ALEXANDER HILL GRAY, Esq., and E. M. EVERSFIELD, Esq.

Twelve distinct varieties, three blooms of each.—1st, E. B. LINDSELL, Esq., Hitchin, who had Mrs. Grant in superb form, and very fine Anna Olivier, Marquise Litta, and Mrs. Sharman Crawford; 2nd, C. B. HAYWOOD, Esq., Reigate, whose Caroline Testout, Margaret Dickson, Gustave Piganneau, and Madame G. Luizet, were the best; 3rd, CONWAY JONES, Esq., Gloucester. There were four entries.

Nine Blooms of any Rose excepting Tea or Noisette.—1st, Rev. J. H. PEMBERTON, Havering-atte-Bower, Essex, with Caroline Testout, in fine form; 2nd, C. B. HAYWOOD, Esq., Reigate, with Mrs. J. Laing.

Twenty-four Blooms, distinct.—1st, R. G. WEST, Esq., Reigate, with excellent Madame Hoste, La France, Mrs. J. Laing; 2nd, W. C. ROMANE, Esq.; 3rd, E. M. EVERSFIELD, Esq., Horsham, Sussex.

Eight distinct varieties, three Blooms of each.—E. M. EVERSFIELD, Esq., Horsham, was 1st, with finely coloured Ulrich Brunner, Madame G. Luizet, Captain Hayward, and Kaiserin Auguste Victoria; 2nd, W. C. ROMANE, Esq., Old Windsor, with good specimens of Madame Gabrielle Luizet and Medea; 3rd, C. W. E. DUNCOMBE, Esq., Ware, Herts.

Seven Blooms of one variety.—W. C. ROMANE, Esq., Old Windsor, was 1st, with Mrs. Grant; 2nd, E. M. EVERSFIELD, Esq.; 3rd, Rev. H. A. BERNERS, Ipswich.

Twelve distinct varieties.—1st, THOS. B. GABRIEL, Esq., Woking, who had fine blooms of General Jacqueminot, La France, Bessie Brown, very fine; Captain Hayward, and La Harve; 2nd, G. MOULES, Esq., Hitchin, Herts, with Frau Karl Druschki, Marchioness of Downshire, and Marquise Litta; 3rd, ERNEST WILKINS, Esq., Sidcup, whose La Fraicheur and La France were capital blooms. There were nearly a dozen competitors.

Three Blooms of any variety, excluding Teas and Noisettes.—1st, G. H. BAXTER, Esq., Brentwood, with Marquise Litta; 2nd, J. R. CURTIS, Esq., Colchester, with Mrs. J. Laing; and 3rd, E. WILKINS, Esq., Sidcup.

Nine Blooms, distinct.—1st, COURTNEY PAGE, Esq., Enfield, whose Mrs. Grant, Caroline Testout, Frau Karl Druschki, and Bessie Brown, were all good; 2nd, J. D. THOMPSON, Esq.; and 3rd, Mrs. E. A. MOULDON, Stevenage. There were ten competitors.

Six Blooms, distinct.—1st, Dr. J. E. PALLETT, Earl's Colne, Essex; his Madame Hoste, Souvenir de S. A. Prince, Mrs. Grant, and Bessie Brown were good. 2nd, A. C. TURNER, Esq., Edgware, with Bessie Brown in perfection. There were eleven competitors.

Five Blooms of any one variety excepting Teas or Noisettes.—1st, R. W. BOWYER, Esq., Hertford, with Mrs. Grant; 2nd, Rev. F. J. FULFORD.

Six Blooms, distinct varieties.—1st, Miss ALICE A. LUCAS; and 2nd, Dr. E. MALTBY.

Twelve Blooms, distinct varieties.—1st, Mrs. L. E. INNES, Hitchin Herts, with Bessie Brown, Caroline Testout, and Mrs. J. Laing as the best. 2nd, G. MOULES, Esq., Hitchin, with Prince Arthur, Elise Vardon, and La France among his leading flowers. A Challenge Cup goes with the 1st prize in this class.

Four Distinct Varieties, Three Blooms of each.—1st W. KINGSTON, Esq., Bedford, with excellent Caroline Testout, Medea, and Marquise Litta; 2nd, E. WILKINS, Esq., Sidcup, with finely coloured Marquise Litta, and good Mrs. Laing; 3rd, G. H. BAXTER, Esq.

Twelve distinct varieties, the competition open to all Amateurs who have not twice previously won the Ramsay Cup.—1st, A. TATE, Esq., Leatherhead, with fine blooms of Bessie Brown, Souvenir de Mme. E. Verdier, very fine; Mme. Cusin, Dr. Sewell, White Maman Cochet and Mrs. Mawley, a very nice bloom. Muriel Grahame, a grand flower, was awarded the Silver Medal; Kaiserin A. Victoria, Gustave Piganneau, and Ulrich Brunner, this was a box of good blooms; 2nd, A. HILL GRAY, Esq., Bath; and 3rd, Rev. J. H. PEMBERTON.

Six Blooms, open to those who have not won a prize at any show of the National Rose Society.—1st, Dr. PALLET, with Souvenir de President Carnot and Ulster; 2nd, E. PERCY SUGDEN.

Six Blooms distinct, open to Amateurs who have joined the Society since the last Metropolitan exhibition.—1st, H. J. HARTON, Esq., Heytesbury, Wilts, with small but nicely formed flowers of Mrs. Grant and President Carnot; 2nd, Mr. E. M. WIGHTMAN.

ROSES GROWN WITHIN EIGHT MILES OF CHARING CROSS.

First prize, J. H. THOMPSON, with a good Charles Lefebvre; 2nd, Mr. ADCOCK.

Six Blooms of New Roses distinct.—In this class no 1st prize was awarded; 2nd, Rev. J. H. PEMBERTON, with good blooms of Frau Karl Druschki and Mildred Grant.

TEA AND NOISETTE SECTION TROPHY CLASS.

Eighteen Blooms distinct.—1st, ALEXANDER HILL GRAY, Esq., Bath, with a box of good blooms, the best being Mme. Hoste, Mme. Cusin, Princess of Wales, Souvenir de Elise Vardon, Bridesmaid [the Premier Tea, the winner of the Silver Medal]; Maman Cochet, white Maman Cochet, The Bride, and Mrs. Ed. Mawley, were all good; 2nd, Rev. F. R. BURNSIDE, Essex, whose Cleopatra, Mrs. Ed. Mawley, Sylph, and Muriel Grahame, were all in fine form.

Eighteen Blooms distinct.—1st, Rev. F. R. BURNSIDE, a pretty bloom of Cleopatra being in his lot.

Eight distinct varieties, three Blooms of each.—1st, A. HILL GRAY, Esq., Bath, his Madame Cusin, Catherine Mermet, Mrs. Ed. Mawley, and The Bride, being all good flowers; 2nd, Rev. F. R. BURNSIDE, with good Innocente Pirola, Maman Cochet, and Medea as among his best.

OPEN TO GROWERS OF FEWER THAN 200 PLANTS.

Nine Blooms distinct.—1st, G. H. BAXTER, Brentwood, with Innocente Pirola and Cleopatra, as the best; 2nd, A. MUNT, Esq., Slough.

Six Blooms distinct.—1st, W. R. HAMMOND, Esq., Burgess Hill, his Ernest Metz and White Cochet being fine blooms.

Five Blooms of any one variety to be shown in a Vase.—1st, G. H. BAXTER, Brentwood, with Medea in good form; 2nd, Rev. F. J. FULFORD, with the same variety.

Four distinct varieties, three Blooms of each.—1st, A. SLAUGHTER, Esq., Steyning, Muriel Grahame and Maman Cochet being the best; 2nd, Rev. F. J. FULFORD, Gloucester.

OPEN TO AMATEURS WHO HAVE NEVER WON A PRIZE AT NATIONAL ROSE SOCIETY'S EXHIBITIONS.

Six Blooms.—1st, H. CLINTON BAKER, Esq., Brayford-bury, Hertford, Madame Hoste and Cleopatra being his finest flowers.

EXHIBITION ROSES IN VASES.

Six varieties, seven Blooms of each.—A. HILL GRAY, Esq., Bath, was the only exhibitor, his Anna Olivier being very good; Madame Hoste was also fine.

Five distinct varieties in vases.—1st, BEATRICE H. LANGDON, Rubens being a good vase.

DECORATIVE SECTION—LADIES.

A Bowl of Roses.—1st, Miss JESSIE LANGDON, Hendon, with a fine arrangement of single varieties set up most artistically. There were nine exhibitors in this class.

Vase of Cut Roses.—1st, E. MAWLEY, Esq., Berkhamsted, with a showy vase of Mrs. Grant, cut with ample stems, and arranged with ample foliage.

GARDEN ROSES.

Eighteen distinct varieties, three trusses of each.—1st A. TATE, Esq., Leatherhead, with Irish Glory, reddish-scarlet; Gustave Regis, Paul's Carmine Pillar, Macrantha, Lady Battersea, Leonie Lamerch, Rosa Mundi, &c.; 2nd, Rev. J. H. PEMBERTON, with Gustave Regis, Madame Alf. Carriere, blush-white; grandiflora, Lady Curzon, and alba rosa, very fine.

Twelve distinct varieties, in not less than three trusses of each.—Mrs. F. PERKINS, Holmwood, Surrey, was 1st having Cooling's Yellow, W. A. Richardson, Purity, Macrantha, and the yellow Madame C. Guinosseau; 2nd, Rev. F. J. FULFORD.

Six distinct varieties in not fewer than three trusses of each.—1st, A. C. TURNER, Esq., Edgware, Madame Pernet Ducher and L'Innocente, being very fine vases; 2nd, Mr. ED. MAWLEY, whose macrantha was very fine.

Six Vases of Sweet Briar Roses in six distinct varieties.—1st, Mrs. HORNE, Reigate, Amy Robsart, Rose Bradwardine, and Anne of Gierstein, with Brenda Pink, being the best. 2nd, G. H. BAXTER.

Six distinct Button hole Roses.—1st, O. G. ORPEN, Esq., with Madame Ravary, Ma Capucine, Madame Hoste, and Anna Olivier. 2nd, A. C. TURNER, Edgware.

Five distinct varieties of Garden Roses.—1st, O. G. ORPEN, Esq., Colchester, with Wichuriana, Gardenia, Lady Curzon, Himalayan Briar, and Purity, which were very beautiful. 2nd, Rev. J. H. PEMBERTON, whose multiflora simplex was very pretty.

MEDAL ROSES.

The Premier T., H.T., and H.P. blooms, for which medals were awarded in the Amateurs' classes, were as follows:—Bridesmaid, exhibited by ALEXANDER HILL GRAY, Esq.; Muriel Grahame, exhibited by A. TATE, Esq.; and Ulrich Brunner, exhibited by Mrs. L. E. INNES, Hitchin, Herts.

In Class 61, for a dinner-table decoration, Mrs. O. G. ORPEN, Colchester, was awarded 1st prize for a table

beautifully adorned with single and semi-double Roses. The sorts used were Jersey Beauty, Lady Sarah Wilson, and another. These in a large central bowl made a very effective arrangement. Buds and fully-expanded blossoms were freely employed for the centre, and but little foliage. Mrs. HOLLAND, Grange Road, Sutton, Surrey, was 2nd.

NON-COMPETITIVE EXHIBITS.

There were several non-competitive exhibits, amongst which may be mentioned those following:—Messrs. Geo. Bunyard & Co., Maidstone, Roses; Mr. GEORGE MOUNT, Roses; Messrs. Dobbies, Ltd., Dereham, Roses; Messrs. G. Jackman & Sons, Woking, Messrs. W. Cutbush & Sons, Highgate, Carnations, Lantanas, &c.; Messrs. H. Cannell & Sons, Swanley, 100 plants of Cannas, in pots; Messrs. W. Spooner & Sons, Hounslow, Roses; Messrs. Dobbie & Co., Orpington and Rothesay, Pansies and Violas; Messrs. Wallace & Co., Kilnfield Gardens, Colchester, hardy flowers; Messrs. J. Green & Nephew, 107, Queen Victoria Street, Munstead flower glasses; Frank Richard Curtis, Esq., Morden Grange, Worthingford, Colchester, Roses; and Mr. R. Pinches, "Acme" labels and arches for Roses, &c.

ROYAL HORTICULTURAL: EXHIBITION AT HOLLAND HOUSE.

(Concluded from p. 422.)

Awards Made by the Council.

GOLD MEDAL.

Lord Aldenham (gr., Mr. Beckett), Elstree, for Crotons and Cut Shrubs.

Jas. Veitch & Sons, Ltd., for Choice Stove and Greenhouse Plants, Conifers, &c.

John Russell, Richmond, for Stove and Greenhouse Plants, and Ivies.

F. Sander & Sons, St. Albans, Orchids, and New and Rare Plants.

T. Rivers & Son, Sawbridgeworth, for Fruit Trees in Pots.

Wm. Cutbush & Sons, for Carnations, Flowering Plants, and Clipped Trees.

Wm. Bull & Sons, Chelsea, for Cut Flowers and Foliage Plants.

SILVER CUP.

J. Colman, Esq., Reigate, for Orchids.

Leopold de Rothschild, Esq., Gunnersbury House, Acton, for Fruit.

Blackmore & Langdon, Twerton Hill Nursery, Bath, for Begonias.

Wallace & Co., Colchester, for Hardy Herbaceous and Bulbous Plants.

Hobbies, Ltd., Dereham, for Roses, Carnations, Violas, and Sweet Peas.

H. B. May, Upper Edmonton, for Ferns and Foliage Plants.

T. S. Ware, Ltd., Feltham, for Herbaceous and Alpine Plants.

J. Peed & Son, West Norwood, for Sweet Peas, Gloxinias, and Caladiums.

H. Cannell & Sons, Swanley, for Cannas and Aquilegias.

J. Carter & Co., High Holborn, for Gloxinias, Pigmy Trees, &c.

A. Perry, Winchmore Hill, for Hardy Cut Flowers and Aquatics.

H. Low & Co., Enfield, for Orchids.

Dobbie & Co., Rothesay, for Violas, Pansies and Pelargoniums.

J. Hill & Son, Lower Edmonton, for Ferns.

Charlesworth & Co., Heaton, Bradford, for Orchids.

T. Cripps & Son, Tunbridge Wells, for Hardy Trees and Shrubs.

SILVER BANKSIAN MEDAL.

Mr. J. R. Jox, West Wickham, for Alpine and Rock Plants.

Mr. A. Dutton, Bexley Heath, for Carnations.

Mr. V. Slade, Taunton, for Cut Pelargoniums.

The Misses Hopkins, Mere, Knutsford, for Hardy Flowers.

Mr. R. Sydenham, Birmingham, for Sweet Peas.

Messrs. B. S. Williams, Upper Holloway, for Orchids and Hardy Cut Flowers.

Baron Rothschild, Vienna, for Pineapple.

Mr. Turner, Slough, for Pinks.

SILVER-GILT FLORA MEDAL.

Mr. Geo. Mount, for Roses.

Messrs. Barr & Sons, for Hardy Flowers, &c.

Messrs. Cheal & Sons, Crawley, for Hardy Shrubs and Trees.

Messrs. P. R. Davis & Sons, Yeovil, for Begonias.

Messrs. Jones & Sons, Shrewsbury, for Sweet Peas, Irises, &c.

Messrs. Paul & Son, Cheshunt, for Roses.

Messrs. J. Laing & Sons, Forest Hill, for Begonias, Caladiums, and Streptocarpus.

Messrs. J. Waterer & Sons, Bagshot, for Kalmias and Rhododendrons.

Mr. Forbes, Hawick, for Phloxes and Pentstemons.

Messrs. G. Jackman & Sons, Woking, for Hardy Flowers.

SILVER-GILT BANKSIAN MEDAL.

Messrs. Kelway & Son, for Delphiniums, Fæonies, &c.

Mr. W. B. Child, Birmingham, for Hardy Flowers.

Mr. Pritchard, Christchurch, for Hardy Flowers.

Messrs. Cuthbert & Sons, Southgate, for Flowering Plants.

Mr. Anker, Kensington, for Cactaceous Plants.

Messrs. Fromow, Chiswick, for Japanese Maples and Shrubs.

Mr. Notcutt, Woodbridge, for Hardy Flowers.

SILVER FLORA MEDAL.

Messrs. G. Bunyard & Co., Maidstone, for Hardy Flowers.

Lord Ilchester, Kensington, for Succulents.

Mr. Icton, Putney, for Lily of the Valley, &c.

The Ranelagh Nursery Co., Leamington Spa, for Foliage Plants.

Mr. Reuthe, Keston, for Hardy Flowers.

Messrs. Storrie & Storrie, Dundee, for Iceland Poppies.

Mr. G. Prince, Longworth, Berks, for Roses.

IMPLEMENTS.

SILVER FLORA MEDAL.

Messrs. Pulham for Stone Vases, &c.

Messrs. Green for Glass Vases.

Messrs. Champion for Tubs and Trees, &c.

SILVER KNIGHTIAN MEDAL.

Messrs. Wood for Sundries.

Messrs. Osman for Sundries.

SILVER BANKSIAN MEDAL.

Mr. Ripley for Summer Houses, &c.

Mr. George, Putney, for Sundries.

Messrs. Dowell for Pottery, &c.

Messrs. Herbert for Sundries.

Mr. Pinches for Labels.

The Standard Co. for Pruners, &c.

Messrs. Ohlendorf for Manures.

GLOUCESTER AND CHELTENHAM ROYAL HORTICULTURAL.

JUNE 24.—This Society held a very successful show on the above date in the Montpellier Gardens, Cheltenham, the chief features of which were the groups of miscellaneous plants, the Orchids, and some other special subjects for which the schedule provides several classes. The table decorations and bouquets were also of great merit, but fruit and vegetables were sparsely shown, and the quality, as might be expected this season, was not very good. The arrangements were in every respect well carried out, and great credit is due to the joint hon. secretaries, Messrs. Sharp and Shenton, and their committee.

Groups of Orchids in a space of 100 square feet.—Of two competitors in this class, Mr. CYPHER, Exotic Nurseries, Cheltenham, was deservedly placed 1st for a splendid lot of well-grown plants of choice species and varieties of Cattleyas, Odontoglossums, Masdevallias, Oncidiums, Epidendrums, &c. The flowering plants were intermixed with Ferns. Mr. VAUSE, of Leamington, was the other exhibitor.

Miscellaneous Plants in 150 square feet (open).—Here Mr. CYPHER was again 1st among four exhibitors, and arranged a valuable collection of plants, amongst which Orchids in variety, Lilies, Heaths, and Verbena Miss Wilmott took important places with Palms, Crotons, Caladiums, Ferns, &c., as ornamental foliage plants. Mr. VAUSE again followed with a good assortment of plants; and Messrs. PATES & SHARP, The Nurseries, Cheltenham, were a good 3rd.

A similar class, devoted to amateurs, brought Mr. Mutlow, gr. to Major PERCY SHEWELL, to the front with a very creditable exhibit; Mr. Maddock, gr. to J. HORLICK, Esq., Cowley Manor, being placed 2nd; and Mr. May, gr. to H. O. LORD, Esq., 3rd.

Pelargoniums.—Classes were provided both for show and zonal varieties of these, and, arranged in groups, they made brilliant displays. With show varieties, Mr. MAY took the premier award, closely followed in the order named by Messrs. PATES & SHARP, and Mr. Mutlow, gr. to Major P. SHEWELL; and with zonals, Mr. MUTLOW was placed 1st. Mr. MAY and Messrs. PATES & SHARP being respectively 2nd and 3rd.

Gloxinias were splendidly shown in groups, Mr. MAY being 1st with superior varieties, and Mr. MUTLOW 2nd. Carnations were also well staged, Messrs. HEATH & SON, The Nurseries, Cheltenham, who gained 1st honours, having especially a fine group of the leading varieties; Mr. MAY was placed 2nd.

Messrs. HEATH & SON were also 1st for a group of tuberous-rooted Begonias, and staged a fine assortment of double and single-flowered varieties; Messrs. PATES & SHARP, who were 2nd, had also a splendid group, comprising excellent varieties.

Plants.—Ten stove and greenhouse plants in flower brought Mr. CYPHER once more to the front with well-grown and flowered large plants of *Ixora salicifolia*, *I. Williamsi*, *Allamanda nobilis*, *Bougainvillea Cypheri*, *B. Sanderi*, *Statice profusa*, a *Stephanotis*, and *Azalea Holfordi*, in splendid condition. Mr. VAUSE was placed 2nd.

Table plants were well staged by Mr. MUTLOW, Mr. MADDOCK, and Messrs. PATES & SHARP, who took honours in the order named.

Twelve flowering plants in 6-inch pots made an excellent class, Mr. MUTLOW being placed 1st, with well-flowered small plants, including *Ericas*, *Cattleyas*, &c.; Mr. MADDOCK was a close 2nd, and Mr. MAY, 3rd.

Mr. MAY was a good 1st with six pots of Lilliums, followed by Messrs. PATES & SHARP.

Cut Flowers, Roses, with their foliage, arranged in a space of 6 ft. by 4 ft.—Here Messrs. TOWNSEND & SON, Worcester, were 1st with a good display, consisting of upwards of fifty varieties; Messrs. PATES & SHARP being 2nd with a fewer number of equally good kinds.

Twenty-four Blooms, Roses.—Here Messrs. TOWNSEND & SON were again 1st with a good box, containing Jeannie Dickson, Margaret Dickson, The Bride, Grace Darling, Abel Carrière, Caroline Testcut, and Reine Marie Henriette, &c.

Herbaceous and Perennial Cut Flowers, in a space 6 ft. by 3 ft., brought two exhibitors, who staged almost equal productions; but Messrs. PATES & SHARP, having the best arranged collection here, beat Mr. CYPHER, who was placed 2nd.

Messrs. PATES & SHARP were again deservedly placed 1st with cut flowers and foliage, arranged in a space of 6 ft. by 4 ft., having such choice subjects as *Roses*, *Carnations*, *Sweet Peas*, &c., well arranged. Mr. VAUSE was 2nd with a capital assortment of flowers.

Table Decorations and Bouquets were prettily arranged. Miss WATSON being 1st in the table decorations, and Messrs. PATES & SHARP with a bouquet.

Mr. WHITE, Worcester, staged a fine collection of herbaceous and perennial flowers; and Mr. CYPHER a large group of *Pelargoniums*, not for competition.

BRISTOL & DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSO- CIATION.

JUNE 25.—This Association held its usual meeting at St. John's Rooms on the above date, Mr. E. Poole, F.R.H.S., presiding. The evening was set apart for the reading of "Horticultural Clippings," prizes being offered for the most interesting. Twelve of the members competed for the prizes, which were awarded to Messrs. Curtis, Kitley, and Hancock.

RICHMOND HORTICULTURAL.

JULY 1.—The annual exhibition of this Society was held in the Old Deer Park on Wednesday last. Amongst the non-competitive exhibits were the following. From J. P. MORGAN, Esq., Dover House, Roehampton (gr., Mr. J. F. McLeod), a collection of cut flowers of *Souvenir de la Malmaison* and other varieties of Carnations (Gold Medal). Sir FRED. WIGAN, Bart., Clare Lawn, East Sheen (gr., Mr. W. H. Young), an excellent group of Orchids. The exhibit included plants of *Cypripedium callosum* Sander, C. Veitchianum, C. Rothschildianum, *Odontoglossum crispum*, and *O. hastilabium* (with forty flowers); *O. cordatum*, *Cattleya Mossiae* "Our Queen," C. M. gigantea, C. M. The Queen, a beautiful variety; *Laelio-Cattleya Canhamiana*, L. C. Lady Wigan, L. C. Ingrami, *Sobralia Wiganiae*, *Thunia Veitchiana*, *Sobralia Sanderi*, and many other fine varieties (Gold Medal).

Mr. J. RUSSELL, Richmond Nurseries, a group of ornamental stove and greenhouse plants (Gold Medal), and a group of Tree Ivies (Gold Medal); Messrs. WARM, Ltd., Feltham, pot. *Roses* and cut flowers (Silver Medal); Mr. J. BRUCKHAUS, Twickenham, group of Palms; Mr. W. ICTON, Putney, group of Palms and Lilies (Silver Medal); Messrs. J. PEED & SONS, West Norwood, London, Carnations (Silver Medal); Messrs. W. FROMOW & SONS, Chiswick, Japanese Maples (Silver Medal).

The competitive classes were well filled on the whole, and the display was as good as any that have been made for several years past.

LINNEAN.

GERMINATION OF DAVIDIA.

At a recent meeting of the Linnean Society, Mr. C. H. WRIGHT read a short paper by Mr. W. BOTTING HEMSLEY on the "Germination of the Seeds of *Davidia involucrata*." The fruit has an exceedingly hard, bony endocarp, or "stone," enclosing usually a number of seeds, and one wonders at first how they will free themselves for germination. A gardener obtaining the fruit for the first time with a view to propagation, would probably try to extract the seeds to accelerate germination; but he would find this a difficult task. On committing the fruits to the earth, however, he would soon discover an admirable natural provision for freeing the seeds so far that germination can proceed. Under the influence of moisture, a portion of the back of each cell (carpel) separates and falls away in the form of a valve or shutter, revealing a portion of the seed. The radicle soon begins to grow, and in due time reaches the ground, when the upper part of the plantlet frees itself from the fruit, and commences an independent existence.



FIG. 7.—AMERICAN GOOSEBERRY MILDEW (*SPHEROTHECA MORS-UVÆ*).

Lonicera flexuosa variegata, *Bignonia radicans*, *Passiflora coerulea*, *Rubus coronarius*, *Jasminum revolutum*, *Clematis calycina* in variety, and any of the hybrids.

FLY ON CUCUMBER PLANTS: W. J. W. It is probable that one or two vaporisations with XL All would effect a cure, few insects being proof against this insecticide. We know of no species of "Cucumber fly" so called, and it would have been advisable to have sent a few specimens for our inspection.

GOOSEBERRIES DISEASED: A. F. G. The fruits are infested with the American mildew of the Gooseberry, a fungus which was described and figured in these pages, Aug. 25, 1900 (see also fig. 7). The fungus can be kept in check by a solution of liver-of-sulphur $\frac{1}{2}$ oz., water 1 gall. Spray at intervals of ten to fifteen days. Diseased leaves and fruits should be collected and burned.

4, *Helianthemum*; 5, *Hesperis matronalis* 6, *Acer Negundo*. The Potatoes have the disease. It is not too late to spray with the Bordeaux Mixture, if you wish to save a large portion of the crop.—J. H. B. *Ranunculus aquatilis*.—F. J. Barnet. 1, *Cypripedium Victoria* Mariæ; 2, *Bryophyllum calycinum*; 3, *Cattleya Gaskelliana*.—J. H. W., *Geneva*. *Gongora quinquenervis*.—E. W. D. *Catasetum viridi-flavum*, and a form of *Oncidium varicosum*.—F. J. T. 1, *Codiaeum Evansianum*; 2, *C. trilobum*; 3, *C. maculatum*; 4, *C. princeps*; 5, *C. Johannis*; 6, *C. chrysophyllum*.—J. B. See last week's issue; 5, *Galium purpureum*; 6, *Astragalus Sieversianus*.

PEACH-BLISTER AND ORANGE-RUST OF ROSES: *Glasheden*. The Peach leaves and point of shoots are infested by the fungus *Exoascus deformans*, for a remedy for which see recent issues of the *Gardeners' Chronicle*. The Orange-rust of Roses was treated of in our issue for June 27 last. We fear you read your *Gardeners' Chronicle* inattentively. It will not spread to your Apple trees. To the Peach borders apply potash, finely-broken lime-rubble, and decayed stable-dung, the last only if the trees lack vigour. Caustic soda washes, and also petroleum washes, a wine-glassful to 3 gallons of soapsuds, or two dressings of Gishurst Compound Soap, at the rate of 3 oz. to 1 gallon of water, will do good. If there are many suckers, lay bare the upper roots and cut away closely these troublesome growths from the Plum stock. But should the trees be aged or in a very bad condition, it might be prudent to replant the south walls with young trees. If the walls are very extensive, plant part with Pear trees of late-ripening varieties. Most early varieties get soon mealy on such walls. We cannot say how long it might take to reclaim the trees, not having seen them—probably two years.

PEACHES FALLING: C. W. H. The fruits are attacked by mildew. Pull every affected fruit and burn it, and syringe the tree several times with a mixture of liver-of-sulphur, $\frac{1}{2}$ oz., in 1 gallon of water.

POTATO-HAULM: A. L. S. Affected with the Potato-disease. You may still do good by spraying with Bordeaux Mixture.

SWEET PEAS: H. W. The plants have been growing very strongly and have received a check from cold and rain. We find no fungus or insect.

TOMATO DISEASED: W. R. R. We would refer you to an answer under the initials "W. C." in the issue of the *Gardeners' Chronicle* for June 20, 1903, p. 404, for an answer.

VINES: F. J. R. The leaves are affected with the Vine-mildew, and the berries are badly shanked. The general appearance of the berries and leaves is similar to that which usually results from the roots getting into a cold and damp sub-soil.

COMMUNICATIONS RECEIVED—W. B. H.—W. G. S.—Capt. Rogers.—D. R. W.—H. J. E.—M. H. & Son.—G. W. M.—H. H. Cromarty.—A. P.—Rothamsted.—A. W. G.—P. B. & Sons.—G. M.—N. E. B.—G. M. W.—J. R. J.—J. M.—E. J.—Sander & Son.—J. Prince.—C. T. D.—G. W.—W. F. J. O'B.—D. R. W.—S. C.—E. S.—W. C. L.—W. Dyke.—M. G.—Dobbie & Co.—S. A.—H. T. B.—W. G.—Ed. W.—H. R. Hartley.—P. McB.—W. B.—C. S. & Co.—T. M.—S. F. M.—E. G.—A. H.—W. A. C.—J. Kent, with thanks (too full this week).—F. C. A.—T. H.—E. H. J.

TRADE NOTICE.

We understand that Mr. E. Scaplehorn, who for the past nine years has been in charge of the Alpine and Hardy Plant Department of Messrs. Jackman & Son, Woking, will shortly take a similar appointment with Messrs. Wm. Cutbush & Son, Highgate, who intend making a special feature of this department.

ENQUIRY

COCKCHAFFERS.—Can any reader give me particulars of an apparatus in which acetylene gas-light, with large reflectors, is used for the capture of these insects? *Seine*.

ANSWERS TO CORRESPONDENTS.

**** EDITOR AND PUBLISHER.**—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are mis-directed.

AQUATIC PLANT: J. H. B. The plant, *Ranunculus aquatilis*, is not readily got rid of, unless you can run off the water for a month or two during the warm weather, and keep the pond dry. If swans be kept on the pond, they would do much in keeping this and certain other weeds in check.

CREEPERS IN AN UNHEATED GLASSHOUSE IN NORTH LANCASHIRE: *Glasheden*. None of the Creepers you name is sufficiently hardy to stand in such a house. You had better try Roses, *Maréchal Niel*, *Catherine Mermet*, *W. Allen Richardson*, white or yellow *Banksian*,

MADRESFIELD COURT GRAPES: C. H. The fruits are attacked by the spot disease, *Glæosporium laticolor*. We know of no cure short of removing every berry in the least degree affected, burning it forthwith. The action of water passing over the bunches and foliage, carries the spores to all parts of a vine. Another year dress the vines with a solution of sulphide of potassium, $\frac{1}{2}$ oz. to 1 gallon of water.

NAMES OF INSECTS: *Young Gardener*. 1, Larvæ of small Ermine-moth, *Hyponomeuter padella*; 2, larvæ of Winter-moth, *Cheimatobia brumata*, and chrysalis of a species of Tortrix-moth; 3, younger stage of 1; 4, brown scale, *Lecanium capræ*, and Tortrix larva; 5, insect gone, probably the larva found with 4.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—A. Nix, *Truro*. *Zephyranthes rosea*.—S. P. *Rhododendron ferrugineum*.—Mrs. L. N. G. *Ophrys apifera*, the Bee orchis.—Lady A. C. 1, *Kalmia latifolia*; 2, *Weigela rosea*; 3, *Kalmia angustifolia*; 4, *Weigela* species. Send better specimen; 5, *Leucothoe axillaris*.—W. W., N. B. *Arisæma Jacquemontii*.—J. C. 1, *Centranthus ruber*; 2, *Thalictrum aquilegifolium*; 3, *As-trantia major*; 4, *Polemonium coeruleum*.—A. D. B. *Anthericum (Chrysobactron) Hookeri*.—B. B. *Veronica Teucrium*.—T. B. 1, not found; 2, *Acer platanoides*; 3, *Silene inflata*;

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COPPICE AND WOOD PLANTING.

TRAVELLING through rural England, one cannot but observe that there are in most counties large tracts of land producing next to nothing, yet which, from a practical point of view, are fully adapted to grow some kind of timber tree, or, at the least, underwood.

Kent, chiefly on account of its Hop-growing industry, takes the lead as regards plantations of underwood. The chief sorts used for this purpose are Ash, Chestnut, and Birch, with Willow and Alder for marshy or wet woods, and Hazel for those of a hilly conformation, having a chalk or ragstone (greensand) formation below the soil.

Larch and other Conifers are but rarely used, as they do not grow again after being cut down, and so are useless for forming stools, as the root-stocks throwing up many branches (springs) are technically called. The Ash is most generally planted, as it is not particular as to soil or situation; but Hop-growers prefer Chestnut poles, as they are more lasting and heavy. For this reason a Chestnut plantation always realises most at the periodical sales of underwood, as much as £20 an acre being reached in the best districts for Chestnut "cants" near a

hard road, about half that figure for Chestnut and Ash together, and less for falls of a mixed character, where Hornbeam, Beech, and Birch form the staple of the woods.

The application of creosote to the sharpened base of the Hop-poles, technically called "tanking," prolongs the life of the pole to such an extent, that many kinds of wood that under the old system were discarded because they so soon decayed, are now used equally with Chestnut, Ash, Oak, and other durable woods.

This process is generally done by standing the poles, after sharpening the butt ends upright in iron tanks, called dipping-tanks. These are provided with a furnace and flues underneath, with an iron damper in the smoke-shaft. By this means the creosote in the tank is kept gently boiling, and thus the sap is expelled from the cellular tissue and vessels of the wood, and its place occupied by creosote. This enables the Hop-grower to avail himself of all kinds of wood, and, coupled with the lucrative nature of Hop farming, some twenty or more years ago, induced large Hop-growers to buy imported Larch poles. This soon reduced the value of plantation and wood falls, and now these can hardly be said to pay the owner of the land, and certainly cannot return any profit to the tenant-farmer.

These causes are no doubt at the root of the almost universal neglect of woods and coppices now prevailing. It is to be regretted that many are so disregarded that they are rapidly reverting to natural conditions; and were it not that the game-preserving owner must have covert for his pheasants and other game birds, the mischief would be still greater.

In other than Hop-growing districts, woods are merely maintained as covert for game, or even foxes, the underwood being cut every ten years, or more often, and the poles used for fencing and hurdle-making, the top-and-lop for faggots for household use, and the rougher boughs to make bush-harrows, or are used in kilns for burning bricks, and where chalk and ragstone formations form the geological strata of the district, to burn chalk into lime for the use of the builder, or for agricultural uses.

In making a new plantation, the first thing to consider is the choice of a suitable plot of ground, and this is better if it have a moderate slope, so that level fields that are best for agricultural purposes need not be taken. The nature of the soil should then be ascertained, and if it be of a too wet and retentive nature, a few open or pipe drains must be made, the former by preference, as drain-pipes so soon get choked by the roots of growing trees. These must be sunk about 1½ ft. deep, and be few or many, but enough to carry off the superfluous surface-water. They may be dispensed with, however, if Willow, Alder, or even Poplar is selected to form the wood, as these delight in abundance of moisture at the roots, yet neither likes stagnant water.

In making a fresh plantation, the young trees, technically called "plants," are put in on the average 5 to 6 feet apart, usually in straight lines; but should the soil be suitable for Larch, it is economical to plant at least 10 feet apart, and to run a line of this useful Conifer between, as these may be cut down in from seven to ten years after planting, and will

sell freely as poles. As before mentioned, this tree does not grow again after felling, and the roots soon decay, leaving the Ash or Chestnut to grow and make stout trees, which may be cut down as soon as they have attained to one foot in circumference at 3 feet from the base. The felling should be done quite close to the crown, when the resulting breaks from the stock will be from three to five, and these will be drawn up straight by the influence of the surrounding trees, and form useful poles.

In districts near towns, it is always advisable to fence plantations carefully, as the stout clean Ash saplings form a great temptation to loafers and schoolboys. A fence most in character is a live one, and this may be formed of Black Thorn (Sloe), of Quick (White Thorn), or a very good hedge may be made by using the Honey Locust (*Gleditschia*), as it bears long spines of a tough woody nature, which are persistent, and often 2 inches long, with an opposite pair of thorns at the base, like the hilt of a dagger. This plant grows strongly and rapidly, especially in deep rich soils. Another fact almost unique is the singular habit this genus has of protruding fresh thorns through the bark of the branches, and even of the trunk, when quite large, making it most formidable as a protective fence, both against man and small animals. This hedge will bear close trimming with impunity, and ground game seem to leave it untouched; while even that snake among quadrupeds, the weasel, would find it painfully difficult to make its way through it.

In some counties, it is the custom for the owner of the land to covenant that a certain proportion of timber-trees shall be planted in woods and plantations, the Beech, Elm, and Oak being stipulated where they severally flourish.

When the falls are measured out into cants for sale, the woodreve, acting with the steward, goes through the plantations and marks with a dab of red-lead all that are to remain, and these in time become what is termed blackrinds; and after a still further thinning become timber-trees, and the property of the freeholder, unless there is any clause in the lease providing for the contrary.

It is not customary to till or even to keep down weeds in new plantations, but this is a mistake, as these not only rob the soil, but have a tendency to cramp the free development of the plants. The better plan, therefore, is to dig the intervening space one spit, and to bury all the weeds removing all roots of perennial and biennial weeds, especially those of a climbing habit, as the Black Bryony (*Tamus*), the Bearbinds, as *Calystegia sepium*, and the Bind-weed (*Convolvulus minor*), which not infrequently choke the young sappy "springs" or growths; while such strong weeds as the Thistles, Docks, and the many too vigorous umbellifers, will so shade the plants as to draw them up with a sappy and therefore tender growth. This is fatal to the Chestnut, for a severe frost will be certain to kill back the growths to the stool, and so not only hinder its development, but induce a lot of weakly shoots to spring from the base, which will be practically valueless.

There was a time when stiff soils were afforested with Birch and Oak exclusively both being left to make stout trees and then

felled. The bark was removed easily, as the felling was done when the sap was rising, arranged in angular form to facilitate drying, and then sold to the tanner; but this is not done to any extent now, the value of bark being so small that, except in the Oak, it does not pay, indeed the value has gone down quite half. The cause of this is, that the tanner has so many substitutes ready to his hand, as well as chemicals and foreign barks. Among these are Valonia (Acorn-cups) of sorts, Myrobalans from India, Cutch, and Terra japonica, from Singapore and further India; while Australia yields him Mimosa bark, a valuable styptic and tanning material. These, as a rule, are quicker in their action, but at the same time speed is often secured at a sacrifice of durability, and the quality of modern leather is often not so good as that made on the old plan, nor is it so soft and ductile.

These substances are rarely used *per se*, but are mixed in certain proportions with Oak and other barks. In spite of this, the value of bark has rapidly declined, so that it now hardly forms an asset in the valuation of woods and plantations compared with other trees; the Oak, especially *Quercus sessiliflora*, is so slow in growth, and so liable to the attacks of gall-flies of many kinds, that unless in deep clayey and cold soils its use is not recommended.

The employment of Ash and Chestnut has been before cursorily mentioned, and also Willow in variety, and Alder for wet positions. It now remains to say that the Norway Maple (*Acer platanoides*), which I had the pleasure to introduce into Kent as a wood-tree, has proved an undoubted success. Its advantages are that, ground game do not cut it down with their knife-like, rodent teeth, as they too often do the Ash and Chestnut. A wounded and lamed hare will go along a whole line of Ash in the plantation or nursery, and cut down every one a few inches from the ground-line, especially in hard frosty weather, or when snow covers the ground. This cannot be caused by hunger, as the bark is seldom eaten, and it thus appears to be sheer wantonness on the part of puss. It may be, however, simply to keep its teeth in good working order, in the same way as cats claw at the soft bark of certain trees, or a favourite post in a wood fence.

Various means have been advised to prevent this, but the usual practice is to smear the young saplings with some evil-smelling and sticky compound, one of the best and simplest being a mixture of equal parts of Stockholm tar and cart-grease, mixed warm, and applied with a brush to at least 9 inches of the plant from the ground-line. This mixture does not dry, and remains sticky and malodorous for a long time, and neither the hare nor rabbit will venture too near, and risk soiling their whiskers with the "tacky" mixture. The use of gas-tar is dangerous for the same purpose, as it dries quite solid and hard, arresting all growth and expansion of the stem of the plant. Some have advised quassia extract to make the bark bitter; but all such applications are but of a very temporary use, being washed off by the first shower. If you can make sure you have no enemy within your fence, you may use wire-netting, but this should be at least 30 inches high, or hares will jump it.

In order of merit, therefore, I would put the Norway Maple first, particularly in rabbit-infested districts; next to this, the Spanish Chestnut; and thirdly, Ash. Then we have Sycamore, Hornbeam (in the Weald of Kent called Buck-Beech), Birch, and Hazel, for upland coppices, in all cases first associated with Larch. For wet woods, Plum-leaved Willow and Alder; while the Bitter Willow will be found useful in the vicinity of warrens, or where hares abound.

More might be said, but the wish of the writer is merely to call attention to the possibility of utilising much waste land, and this, apart from the idea of simply beautifying estates and the country generally, must be my apology for occupying so much valuable space. *Experience.*

THE BEGINNING OF THE LILY SEASON.

NATURE has of late been very unreliable, so far at least as regards her atmospheric conditions. To-day, after the exercise of much patient assiduity, we have our gardens in almost perfect order, every flower a picture of beauty amid the shadowy twilight created by the trees; to-morrow, to our consternation, it may be everywhere desolated by a fierce south-east wind, accompanied by torrents of rain. Before the untimely presence of such a visitation as we experienced on the confines of July, our fairest flowers, deluged and driven earthwards by the weight of wind and moisture, do not long retain that loveliness of colour and perfection of form which are the gardener's constant joy. But he has this consolation, that the process of floral creation, so mysterious to the profoundest scientific intellect, is still going on; and that the rains which destroy our fully-opened flowers are meanwhile hastening the development of others, which ere long, in happier circumstances, will take their place.

The growth of precious plants has also of late been greatly stimulated by the superabundance of thunder-showers. This has been specially observable in the cases of the Oriental and American Lilies, which seem to rejoice in a season of veritable floods. *Lilium Henryi* and *Lilium monadelphum* var. *Szovitzianum*, for example, have attained a height of not less than 8 feet; the former, which is one of the grandest of Asiatic Lilies, and unquestionably the monarch of the great Martagon family, already expanding its exquisitely beautiful lemon-coloured flowers.

Equally forward in its floral evolution is that loveliest of all Californian Lilies, whose aspect and fragrance are the very essence of refinement, *Lilium Washingtonianum*. It never reaches its adequate stature in this country; nevertheless it generates a considerable number of extremely attractive blooms, white, very delicately spotted with faintest purple; while in a few days it assumes an almost roseate appearance. There is a variety entitled *Washingtonianum rubescens*, in which the tendency I have indicated is, from its first appearance, more strongly marked; but the familiar form is, on the ground of artistic effectiveness, infinitely to be preferred. *Lilium Humboldtii* promises to be finer than usual this season; and *Lilium pardalinum*, which for many years I could not induce to grow and flower vigorously, is at last, transplanted manifestly to more congenial soil, a gratifying success. Equally successful, though it has not attained to the same commanding height, is the very similarly coloured *Lilium Burbankii* ×, described by its eminent raiser as a hybrid between the Californian Panther Lily and *Lilium Washingtonianum*. In my own

garden, however, it is almost identical with *Lilium pardalinum*; though Mr. S. Arnott, of Carsethorn, informs me that he has seen a variety of the Burbank Lily with distinctive characteristics. A much finer hybrid is *Lilium excelsum*, which has not proved so enduring or prolific as I could have desired. This Lily is supposed to have been the result of what may be termed natural (as distinguished from cultural or artificial) cross-fertilisation between *Lilium candidum* and *Lilium chalcedonicum*—the luminous scarlet Martagon, and, to a large extent, partakes of the attributes of both—a fact which explains its charming colour and decorative capabilities.

One of the finest specimens of *Lilium auratum*—assuredly the most imposing in dimensions I have ever beheld—obtained last winter from Messrs. Dobbie, of Rothesay, has generated three strongly fasciated stems, undoubtedly the result of hypertrophy. It will probably produce not fewer than 200 miniature flowers, which, as I know from former experience of a similar creation of "high cultivation," will have to be reduced, if the blooms, whose name is legion, are to have any chance of opening with normal facility. Another of my *L. auratum*s came with its head bent so abortively earthwards, as if its neck was hopelessly broken, that it had to be destroyed, as nothing would induce it to grow, like its aspiring Japanese contemporaries, upwards to the light.

Lilium Browni and *Lilium Kramerii* have, in my garden, entirely disappeared, leaving only the memory of their beauty behind; but *Lilium speciosum* and *Lilium chalcedonicum* have grown magnificently; and few Lilies are more radiantly beautiful than these. *David R. Williamson, Wigton-shire.*

THE ROSARY.

NOTES ON ROSES AND ROSE-STOCKS FOR BUDDING.

ALMOST all classes of Rose-stocks, excepting the Manetti, may now be budded; and where possible, unless there is a large number to be done, the operation is best performed on a dull day, or in early morning and late in the evening. If the prevailing weather is very hot, the plants should be afforded water at the root, after loosening the soil, and also after budding.

The standard and dwarf Briars should now be in the best condition for working; the Manetti stocks are best left till August. The wholly longitudinal incision is better than the cross-cut for budding, as the shoots are not so liable to break off from wind or other causes. The surplus shoots of the standard Briars should have been rubbed off last month, and two or three of the strongest left entire near the top. In budding, it is best to use scions from flowering shoots, as they are so much better ripened and take more successfully. In the absence of rain, both stocks and Roses on light, dry soils are the better for a mulch of manure and abundance of water. The multiflora stock is admirable for strong-growing climbers of the Tea and Noisette family, such as *M. Niel*, *W. A. Richardson*, *Aimée Vibert*, and others.

Tea and other Roses on their own roots that were propagated early in the season may now have a shift, if this has not already been done, into 5-inch pots, and be plunged outside on a disused hotbed, but not under glass. They will soon make rapid and abundant growth when assisted by the night dews and the fertilising properties of the manure. To induce a bushy habit, they should be stopped twice during the growing season; the last stopping, if made in August, will afford the plant the opportunity to ripen its wood. Afterwards they can be passed into the cold frame for the winter, giving them all the air possible. *J. D. Godwin.*

ALPINE GARDEN.

IBERIS.

SPRING-FLOWERING kinds of Candytuft are now excellent and various, and need no commendation; their names are somewhat confused and confusing, as many of them are hybrids. *Iberis corifolia* is often praised; this should be spelt *corraefolia*. It is recognised in the *Kew Hand-list* as "of garden origin," and is probably a hybrid. If frequently propagated by cuttings, to prevent leggy plants, it is worthy of a place anywhere; it is then dwarf, with large flower-heads of pure white, lengthening out into long trusses with wide hemispherical ends.

The *Index Kewensis* catalogues a name, *I. corifolia* (Sweet), which I cannot find described. It perhaps took its origin from *I. coridis folio* (Villars, *Plants of Dauphiny*, 1785), referred to in *Bot. Mag.*, tab. 1,785, to *I. saxatilis*. *I. Garrexiana* makes a dwarf and close dark green surface all winter, flourishing well in April and May; it is considered by botanists a variety of *I. sempervirens*, but is widely distinct in many characters from the type.

I. sempervirens has many forms, and probably many hybrids. The type is often more leafy than flowery, and is too tall and spreading for a small rockery. Such dwarf forms as one sold by the name Little Gem are better, and are easily renewed by cuttings, but dwarfs of excellent habit, which cannot be referred with certainty to any species, come spontaneously in gardens where they are encouraged.

The gems of the genus in the Edge garden are two very dwarf forms, referred by botanists to *I. saxatilis*. They are of very slow increase, and make closely crowded, prostrate flower-tufts, each not larger than a sixpence. One kind begins to flower about Christmas, the other about six weeks later, the flowers being uninjured by hard frosts. The untidy and distorted growth in the portrait of *I. saxatilis* (*Bot. Mag.*, tab. 172), gives no idea of the elegant neatness of these two varieties, which I have had for nearly twenty years, but forget their source.

I also recommend two closely allied dwarfs from the south of Italy, *I. Tenoreana* and *I. Pruiti* (*De Candolle, Prodrom.*, vol. i., p. 179). They generally flower only twice with me, flowering themselves to death. The first-named has flowers either white or suffused with rose, the second always pure white. *I. Tenoreana* is figured in *Loddiges' Cabinet*, tab. 1,721; *Bot. Mag.*, tab. 2,783; and *Sweet's Flower Garden*, tab. 88. I do not find any portrait of *I. Pruiti*. The two annually produce a spontaneous crop of seedlings, many of them apparently crossed. If the bushy seedlings are selected, and transplanted to vacant spots on a rockery in autumn, they prove worth the trouble, by flowering in succession all spring and summer.

The prettiest flower of Candytuft now out in my garden bears a large head of clear bright rose colour on a dwarf plant. I suppose it is a hybrid of *I. gibraltarica*, but if it is, I am surprised that it passed unharmed through the destructive frosts of April. *C. Wolley Dod, Edge Hall, Malpas, May 4*. [Reference may be made to Mr. Baker's monograph in the *Gardeners' Chronicle* for 1868, p. 711. Ed.]

SOME RED OR PINK-FLOWERED SAXIFRAGAS.

S. Kolenatiana and others.—A pink-flowered Saxifrage I once cultivated as *Kolenatiana*, now referred by some to *S. cartilaginea* [as in *Index Kewensis*], I have unfortunately lost, and I can only speak of it from recollection. It was of the encrusted section, and had pleasing pink flowers. Apparently it must have been one of the forms of the variable *S. cartilaginea*, which has white, pink, or purple flowers. Of the true *S. Frederici-Augusti*, which is said to have

purple flowers, I know nothing save that which is to be found in works of reference dealing with Saxifragas. [It is said, in *Index Kewensis*, to be synonymous with *S. porophylla*.] *S. Arnott, Carse-thorn by Dumfries, N.B.*

SAXIFRAGA COCHLEARIS.

This is one of the most elegant and beautiful of all the June-flowering species, particularly those of the encrusted section. From such species as *S. longifolia* or *S. cotyledon* the cultivator

a rounded rosette more nearly approaching some members of *S. aizoon* rather than those named above. In a rather strong loam, with much grit added, this species grows freely. *E. Jenkins.*

SPARAXIS TRICOLOR IN AN AUSTRALIAN GARDEN.

WHILST in Europe last year I visited upwards of one hundred public and private gardens, parks and recreation grounds in Great Britain, Ireland,



FIG. 8.—SPARAXIS TRICOLOR ON DR. NORTON'S LAWN AT ECCLESBOURNE, SYDNEY, AUSTRALIA.

obtains one very handsome inflorescence in perhaps a 5-inch or 6-inch pot; but it is possible in the same size pot to secure a dozen, or even a score, of spikes of blossom from *S. cochlearis*. These are of snowy whiteness, save for the extremely faint dots of pink on the petals. The plant is not always to be obtained true to name, a very inferior variety between *S. Hostii* and *S. lingulata* sometimes doing service for it. These latter have more or less linear, oblong, or acuminate leaves, while in the true species the much encrusted leaves are distinctly spatulate, forming

France, Germany, Belgium, and Holland, and saw many beautiful examples of landscape gardening and horticultural skill. I noted with pleasure the great advances that had been made in planting bulbs in grass since my previous visit. I saw extensive displays of Snowdrops, Crocuses, wild Hyacinths, various Narcissi, &c., which I thought particularly charming; but for gorgeousness of display I saw nothing to equal the numerous varieties of *Sparaxis tricolor* that the Hon. Dr. James Norton, M.L.C., has growing on his lawn at

Ecclesbourne, Sydney, Australia (see fig. 8, p. 15, depicting a portion of the lawn covered with *Sparaxis*). Whilst in Europe I was shown several varieties of *Sparaxis tricolor* in pots under glass, but when I explained how admirably this bulbous plant grew in the open-air in Australia, and how successfully Dr. Norton had grown them in grass, my hearers thought the effect of these plants when in bloom must be surpassingly beautiful. There is a greater number of varieties of *Sparaxis tricolor* grown at Ecclesbourne than in any other public or private garden in Australasia. This splendid collection comprises some thousands of bulbs, including hundreds of varieties having flowers of every conceivable hue, and the colouring of the petals is so rich and varied that many of them might be described as fantastic. When in bloom, the lawn rivals the richest mosaic work in colouring. Every spring-time many plant-lovers visit Ecclesbourne in order to see this beautiful sight. There is a history attached to these plants. In the early part of the last century Dr. Bowman, of Sydney, imported the original bulbs from South Africa, and gave some of them to the late Hon. James Norton, M.L.C., of Elswick; and forty-five years ago his son, Dr. Norton, made a selection from the descendants of these, and planted them at Ecclesbourne. Ever since then the process of careful selection of superior varieties has gone on, with the result above stated. It should be mentioned that during the last few years Dr. Norton has succeeded in raising a beautiful bright yellow variety which is looked upon as quite a novelty. In Australia, most varieties of *Sparaxis tricolor* produce seed in great abundance, and the seeds germinate readily under ordinary conditions. It might be added that there are growing amongst these varieties of *Sparaxis* a number of species of *Babiana*, *Freesia*, *Ixia*, *Tritonia*, *Triteleia*, and other choice bulbous plants which have a charming effect when in bloom. *Fred Turner, F.L.S., &c.*

NOTICES OF BOOKS.

THE AMERICAN CARNATION: HOW TO GROW IT. By Charles Willis Ward. (New York: A. T. De La Mare, Printing & Publishing Co.)

This is a very nicely-got-up book, and places before us the history of the Carnation and its culture from an American point of view. As there is some divergence of opinion on the relative properties of the English and American types of Carnation, it will be both interesting and instructive to consider the question on its merits. Mr. Ward traces the history of the Carnation for a period of 2,000 years; but in those early years America was "out of it." In later times, nearly all the poets and authors of Herbals are quoted, from Chaucer to John Gerard. Old Parkinson is not included; Mr. Thomas Hogg, of Paddington, is quoted as an authority on the properties of a Carnation; and Mr. Ward truly remarks that in Hogg's time "only flakes, bizarres, and Picotees were considered good Carnations." And in reference to Hogg the author states "that the English grower strictly barred all Carnations with fringed petals." This is in direct contradiction to the American idea of a fine Carnation, for here the fringed petal is rather preferred. My own experience with American-bred Carnations is that those varieties with fringed petals are more easily grown under our conditions, and the blooms are also better keepers than the shell-petaled varieties.

The history of the Carnation in America began in 1840. A gardener from Lyons, France, named Dalmais, introduced the perpetual-blooming variety, and cross-fertilised the French type with a Flemish Carnation; and our author traces the history and development of the Carnation very

carefully until he commenced growing the Carnation on his own account in 1890. The later varieties I have not grown, but many of the varieties named were cultivated carefully under glass; but no one cared for them, and all were discarded except Lizzie McGowan and C. A. Dana. Since that, our collection contains Mrs. Thomas Lawson, which, when well grown, is a very beautiful and distinct variety.

Mr. Ward has much faith in the final triumph of the American type of Carnation. In a recent address, Mr. Carnegie stated that the time is coming when Canada will be absorbed by the United States of America; so Mr. Ward believes that "within the next generation we may expect to see the American race of Carnations in general cultivation throughout the horticultural world, wherever climatic conditions permit." We are informed that Belgian and German florists are sending their sons to the United States to serve apprenticeships in the Carnation establishments, returning in a year or two to engage in the culture of the American Carnation.

The development of Carnation culture in the United States during the last decade is certainly remarkable; and one cannot wonder at this, because the greater the quantity of flowers grown the higher are the prices. It is stated that there are 2,000 establishments devoted principally to Carnation culture; 7,000,000 to 8,000,000 Carnation plants are grown, producing annually 100,000,000 Carnation blooms. In the year 1890, the retail prices of Carnation blooms ranged from 25 to 50 cents, and at occasional times to 70 cents per dozen; whereas at the present time the retail prices in the larger cities of the United States are from 75 cents to 5 dollars per dozen; and in rare instances especially fine blooms are sold as high as 8 to 12 dollars per dozen blooms. Some of the less fortunate growers in this worn-out old country may think I am not quoting correctly, and that the author does not mean a single dozen of blooms for 12 dollars, that some large number or measure is intended. The statement is made at p. 34 of the book. The remarkable part of it is the fact that by increasing the output the prices rise. No wonder millionaires are as plentiful as Blackberries in America.

The culture of the plants must be inexpensive as compared with the English method. The propagation of the plants is the same in America as in England. The author fancies that the Carnation for winter-blooming is propagated in England by layering; at least he says it is largely practised. There he is in error; the plants are propagated by means of cuttings on bottom-heat in England, as in America, during the months of January, February, and March. The young plants are potted off in both countries into small flower-pots; but the after-culture is different, and must be all in favour of the American method for cheapness and also for the after-results.

Instead of repotting the plants several times, and growing them to the flowering size in pots, they are grown in fields, the ground being prepared by ploughing. The plough is also called into requisition in the preparation of the soil for "benching." Laying up the turf soil in heaps is found to be too expensive, it is therefore prepared somewhat as follows:—The manure is spread evenly on the "sod ground" early in September, and ploughed-in to the depth of 5 inches; this is harrowed over, another light coat of manure is given in November "and turned under, the ground being left in ridges, so that it will get a thorough freezing." In spring the ground is ploughed again two or three times, and thrown into ridges. This soil, after being worked as above, is taken into the houses, and the benches are filled up with it for planting.

The time of planting, method of planting, and all the minor details of the work are carefully

described. The soil on the benches is sterilised with steam-pipes. These pipes are carried through the soil on the benches at a depth of 6 inches. Holes are made in the pipes at intervals, and steam is forced into them for twenty to thirty minutes, until the soil is heated to 190° to 212°. "This is sufficient to kill all the bugs, earth-worms, wire-worms, and other insects which infest the soil, and to destroy all weed-seeds and spores of fungi." The surface of the soil is covered with sheeting of some kind before the steaming process is started. I had marked many more passages which might be dealt with, for the author is certainly an enthusiast and knows what he is writing about. One passage must not be passed over—what he calls the theory of luck. He does not believe in luck, nor do I. When a gardener tells me he has been unlucky with his Carnations I am anxious to know where the luck comes in. A grower who understands the requirements of his plants and minds his own business, instead of looking after other people's, is never found growling about being unlucky. A man may be unlucky with his Cabbages and Pumpkins if he does not sow his seed at the right time and see that it is well sown, that the seedlings are pricked out when ready, the ground prepared for them, &c. All garden work wants doing at the right time, and the gardener who is always telling us that there is no time to do this, that, or the other part of his work, had better give up gardening and enlist, or try some other easier sort of work.

There is no reason why the bench culture of Carnations should not be tried in England. Gardeners who have quantities of cut Carnations to supply in winter, or who are growers for market, might well pause and consider whether the system is not well worth a trial. Mr. Ward's book will give all the information required. The amateur who does not know a Carnation plant from a Shirley Poppy will find full instructions from the seedling or the cutting to the full-grown plant; while the practical gardener will be sure to find something new, something to please and to instruct him in the ways of the American cultivator. Insect pests and diseases are fully noticed, and instructions given for their extermination.

I can recommend the book to amateurs, gardeners, and market growers. It is well printed on fine paper; the illustrations of the houses and photographs of the different varieties of American Carnations are excellent illustrations of the flowers desiderated by the American people. At p. 26 is an illustration of Governor Roosevelt, the outer petals irregularly and deeply serrated, the central petals notched, and of the worst possible form; but the question of form in Carnations must stand over, and also that of the use of stimulants. *J. Douglas.*

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHIDÉES.

THE issue of M. Cogniaux's work for May just to hand contains fourteen subjects, mostly old species, or slight variations of them:—

Arachnanthe Cathcartii.—Also known in gardens as *Vanda* and *Esmeralda*. Discovered by Sir J. D. Hooker in the moist valleys in the Eastern Himalaya in 1848. Flowers large and of thick substance, yellowish, heavily barred with red-brown.

Cattleya Mossii variabilis.—A pale variety, with lavender-tinted flowers.

Cattleya Percivaliana grandiflora.—Flowers bright purplish-rose with maroon disc and yellow marking in the tube of the labellum.

Cattleya × *Whitei*.—A natural hybrid between *Cattleya Schilleriana* and *C. labiata* Warneri. Flowers purplish-rose, darker on the labellum, which has yellow markings at the base.

Cypripedium × *Chapmanii* (Curtisii × bellatulum).—Flowers finely tinged and spotted with purple, the white ground showing on the outer halves of the dorsal sepal and petals.

Cypripedium × *Gaudianum* (Curtisii × Harrisianum superbum). Flowers tinged and veined with dark rose, the petals and dorsal sepal having some dark purple spots.

Dendrobium × *Ainsworthii grandiflorum*.—Flowers white, tipped with dark rose. Disc of lip purple with a yellow band. It is the plant well known in gardens as *D. × splendidissimum*.

Dendrobium sanguinolentum.—A Malayan species introduced in 1842. Flowers in short racemes, white, tipped with purple. Disc, yellow.

Epidendrum atropurpureum *Lionetianum*.—Sepals and petals greenish, stained with purple. Lip pale rose striped with darker rose.

Houlletia odoratissima.—Sepal and petals orange colour shaded with red. Column and lip whitish with minute purple spots. Imported from New Grenada in 1852, and recently by M. Fl. Claes, of Etterbeck, Brussels. This figure commences the genus *Houlletia*.

Marillaria tenuifolia.—A Mexican species, introduced in 1837, and flowered in the gardens of the Royal Horticultural Society in 1839, and now a very common plant in gardens. Flowers yellowish, marked with red.

Miltonia Phalaenopsis.—Flowers white, with yellow crest and purple markings on the lip.

Saccolabium bellinum.—The well-known species discovered in Burma by Boxall in 1873. Sepals and petals greenish-yellow, spotted with red-brown. Lip white, with yellow disc and rose-coloured markings.

Zygopetalum brachypetalum pallidum.—Flowers resembling those of a small *Z. Mackayi*. Sepals and petals greenish, blotched with purple. Lip white, striped with rose-purple.

ORCHID NOTES AND GLEANINGS.

LUISIA TERES.

As a result of instructions given in Japan by the Hon. N. Charles Rothschild, when on a voyage round the world some time ago, a number of interesting Orchids has been received by him, some of which are at his gardens at Ashton Wold, Oundle, and part at Tring Park.

Luisia teres, one of the rare Japanese Orchids, is now in flower at the latter place. In growth, its slender stems and cylindrical leaves resemble a small *Vanda teres*. The flowers are borne, to the number of three or four, on a short, erect spike, proceeding from the stems at the axils of the leaves. The individual flowers are about $\frac{1}{2}$ inch in length, the sepals and petals in colour greenish, with purplish lines along the keels at the back. The labellum, which is distinctly bilobed at the apex, is dark purple. When mature, the sepals, petals, and front of the labellum close over the column, leaving window-like openings at the sides, as in the genus *Cryptophoranthus*. It is probable that at certain hours of the day the petals may expand, and again partially close, as seen in the specimen sent, and which expanded perfectly in water shortly before noon. It would be well to observe the plant.

A curious little Japanese *Bulbophyllum* (?) is about to bloom; and of those which Mr. N. C. Rothschild brought home, the pretty *Aërides japonicum* and *Angraecum falcatum* have both flowered well.

LÆLIO-CATTLEYA × LADY MILLER.

A fine flower of this pretty hybrid between *Cattleya granulosa* *Schofieldiana* and *Lælia cinnabarina* is sent by Eustace F. Clark, Esq., Chamonix, Teignmouth, who calls attention to the features of the *C. granulosa* being obscured in the hybrid, and its unexpected development in the

direction of *L.-C. × Hippolyta*, or other of the *C. labiata* crosses with *L. cinnabarina*, its flowers being equal to the best of them in size and showiness. The flower is more than 5 inches across, of a peculiar coppery-orange tint slightly tinged with rose; the petals and side lobes of the lip also bearing a delicate veining of rose. The front lobe of the lip is purplish-crimson, and its surface is studded with minute papillæ. These, and the erected side lobes of the lip, are the best traces of *Cattleya granulosa*, the thick substance of which and other features do not appear. It was first sent to us in 1901 by Mr. J. Hamilton, gr. to Sir Jas. Miller, Bart., Manderston, Duns, N.B., who was the first to flower it.

ONCIDIUM LAMELLIGERUM.

This handsome species, originally described by Reichenbach in the *Gardeners' Chronicle*, 1876, p. 808, is still rarely seen in gardens, as it has

the same garden, and shows that notwithstanding the acres of Roses that almost surround the residence, the private garden, with its soft lawns and flower-beds and borders, is not one whit the less appreciated. So many Roses may be seen in the nursery, it is not surprising that in the view given below the flowers are of other species, and so afford a contrast, not to say relief, to the abundance of Roses. It is interesting to recall the fact that this nursery and garden is situated on one of the highest points around Colchester, being on a level with the steeple of the parish church. In spite of its altitude there is such abundant water even near to the surface that it is necessary to conduct the surplus away by means of an efficient system of drainage. The late Mr. Cant left two sons, who are as enthusiastic as their father was, and their success has been exemplified even in the present season.



FIG. 9.—MESSRS. B. R. CANT AND SONS' PRIVATE GARDEN, COLCHESTER.
(Photograph by F. Mason Good.)

never been imported in quantity, as have its allies, *O. macranthum* and *O. serratum*. A fine example is sent by Mr. H. Arthur, Revidge, Blackburn, the popular Honorary Secretary of the Blackburn and District Horticultural Society, who states that it was purchased as an imported plant for *O. macranthum*. The very long flower-spikes bear large handsome flowers about 3 inches in diameter. The upper sepal is stalked and nearly circular, brown margined with yellow; the narrower and longer lateral sepals also brown; and the broad, incurved, fringed petals light yellow, spotted with purplish-brown on the inner halves. The lip is purple on the narrow side lobes, and lighter on the front lobe, and the singular crest white and purple.

IN MESSRS. CANT'S GARDEN.

An illustration was given in last week's issue of the famous hedge of Ayrshire Roses growing in the private garden attached to the residence in the nursery of Messrs. B. R. Cant & Sons, Colchester. The house was inhabited for very many years by the late Mr. Benjamin R. Cant, who died there on July 17, 1900, in his seventy-fourth year. In fig. 9 is given another view from

MARKET NOTES.

PELARGONIUM TRICOLOR MASTERPIECE.

This stands undoubtedly well to the front as a bedder. It is in growth second to none, and the markings of the foliage are extremely rich and beautiful, and the zone is broad and black. Messrs. B. S. Williams & Son have a good stock of this at their Finchley nurseries in trial beds, as likewise of Mrs. Pollock. As the beds are open to the south, the display will be a fine one. The last week in June, Covent Garden Market was specially well supplied all round with tricolor Pelargoniums, and I observed, besides Masterpiece, Mr. Henry Box, another excellent variety.

BORDER CARNATION MRS. HERBERT J. CUTBUSH.

This is a very fine variety, and several houses filled with the plants are coming into bloom at the Finchley nursery of Messrs. Cutbush. The colour is a deep rose; the individual blooms are of a large size, and perfect as regards form, and the petals of good substance. It is a free-flowering variety, good for growing in pots. So far demand exceeds production, and the raiser has had no opportunity of testing its flowering

capability as a two-year-old, but he learns that it does well when aged. This old-established firm is about to erect another lot of glasshouses for the cultivation of *Souvenir de la Malmaison* Carnation var. *Nautilus*. This, one of Mr. Martin R. Smith's raising, is now met with on the exhibition table, either grown in pots or in the cut state. As seen at Messrs. Cutbush's nursery in quantity a better idea of its value can be formed than when cut or when growing in small quantities. The blooms are of a pleasing, distinct, flesh tint, and models of good form. It is a continuous bloomer on two-year-old plants. The Malmaisons have a great fascination for the public, and the present market prices for cut bloom reach tempting figures.

LYCHNIS VISCARIA SPLENDENS, FL. PL.

This is a good wet-weather plant, the flowers enduring rain without disfigurement or decay. Once established, the plants should not be disturbed for years, and they will make a fine display. The plant can be propagated readily from cuttings, which will flower the next season. A very showy, useful border or rock plant. *Stephen Castle*.

EUCHARIS GRANDIFLORA.

This charming free-flowering bulbous stove plant is most accommodating in the way of flowering, and the umbels of large pure white fragrant flowers, borne on stout stems well above the large, handsome green leaves, are very telling in effect, either as vase or specimen plants, or intermixed with other subjects in stove or warm greenhouse. If given a compost consisting of fibrous peat and loam in about equal parts, and one part of pulverised cow-manure and small charcoal, with a liberal dash of sharp sand added, and a minimum temperature of 65°, with careful application of water at the roots, the plants will grow and flower freely. In potting, use clean pots, and afford good drainage, putting a large convex crock over the hole in the bottom.

In breaking up large plants, let the bulbs be sorted into three or four different sizes. The size of the bulbs should govern the number to be placed in each 4½-inch, 6-inch, and 8-inch pot, three average-sized bulbs being put into the first-mentioned size, five in the second, and nine in the third. Specimens may be made up by potting a dozen or two large bulbs in large pots. In potting, bury the bulbs a little below the apex, and make the compost quite firm under and around the same, and then afford water to settle the soil.

The chief cultural points to be observed in the cultivation of *Eucharis* are ample drainage, water somewhat sparingly applied at the roots until numerous roots have pushed into the soil, and applications of mild liquid-manure in a tepid state twice a week after the flower-spikes have appeared, and the maintenance of an uniform warmth, together with moist conditions, until the flowers begin to open. At that stage, the plants may be removed to a structure having a cooler and drier atmosphere, in which case the soil should be allowed to get fairly dry before water is applied at the root.

I have found it a good plan to stand the pots of freshly-potted, dormant bulbs on thin boards resting on the hot-water pipes in forcing-houses, where, if the soil be kept quite moist, rooting and leafing soon take place. The plants may then be transferred to the staging over the hot-water pipes in a plant stove. Weak liquid-manure should be afforded the plants for a few weeks after they have gone out of flower, and afterwards water should be gradually withheld previously to discontinuing the supplies altogether a few weeks later, so as to rest the plants; the pots being turned on their side the better to insure the plants having this enforced rest, and be kept to

the stove while so resting. Plants thus treated will send up a crop of flower-spikes twice or thrice in the year within a month or six weeks from the time water is withheld from the roots. The pots should then be stood in their proper position, the soil pricked over with a pointed stick, top-dressed with a little of the mixture indicated above, and well watered; repeating the operation each time the plants have gone out of flower. *Eucharis* do not need disturbance at the root for periods of two or three years; indeed, not before larger pots are absolutely necessary, or the bulbs reduced in number. *H. W. W.*

VARIATIONS IN ANIMALS AND PLANTS.*

(Concluded from p. 405.)

MR. BATESON divides variations into two classes—*substantive*, i.e., in the substance of the parts; and *meristic*, relating to the number of parts. Both of these are common enough in plants. Thus, maritime plants are often fleshy in "substance," but the cause has been shown to be due to salt.

Similarly, members of the order *Cactaceæ* and S. African *Euphorbias*, &c., are fleshy-stemmed plants. Such is, presumably, i.e., by inductive evidence, the result of response to drought. These are now genuine and constant varietal or specific characters; but meristic differences may or may not be worthy of either term; for "fours," "fives," and "sixes" may be found in the whorls of flowers on the same corymb of Elder, and are merely due to relative degrees of nourishment at the disposal of the flower-bud. Such cannot be depended upon for constancy. Similarly di- and tetramerous flowers are not uncommon in Monocotyledons, but they do not lead to varieties or species in Nature, unless the conditions of life be constant, which gave rise to them. Thus the relatively barren soil of sandy heaths is correlated with the permanently four-petalled flowers of the Tormentil, and the species of *Gentian* (*G. campestris*) is regarded as specifically different from another (*G. amarella*) by having a 4-merous calyx instead of a 5-merous one, as in the latter species, solely because the difference is constant.

Number, of course, plays an important part in the classification of flowers, but its value entirely depends upon its constancy. In the author's quotations from Mr. Bateson, this element of fundamental importance does not seem to have been sufficiently tested or insisted upon. Hence the value of these statistics is greatly weakened so far as they are presumed to point to true "varietal" variations.

To give one more instance. Of the numbers of the leaflets of Clovers, bearing 3, 4, 5, 6, or 7, the maxima were 3, 5, and 7. Now this is simply in accordance with the evolution of compound leaves from simple ones. It is obtained by a "severance" of the first pair from a simple blade, and then by another pair being cut off from the latter (speaking metaphorically, of course), so that any large plant, say of Cinquefoil, will bear leaves with 1, 3, 5, and 7 leaflets, and none with 2, 4, or 6.

As with Phyllotaxis, the observations on Clover lead to nothing of a truly varietal nature. No botanist regards the common "4-leaved form" of the Clover, or the "even-

leaved" form of the Ash-leaf as varieties of the Clover and Ash respectively.

Dr. Vernon quotes Darwin as saying:—"The more diversified the descendants from any one species become in structure, constitution, and habits, by so much the more will they be better enabled to seize on many and widely diversified places in the polity of Nature, and so be enabled to increase in numbers" (p. 66).

He does not see that Darwin is here "putting the cart before the horse"—a process which results from his theory of selection from indefinite variations. The fact is, as Dr. Vernon seems fully to admit in his later chapters, that "the diversification in structure, constitution, and habits," is brought about by the direct action of the "widely diversified places" through the responsive power of the plants themselves; but the author cannot altogether free his mind from the imaginary "agency" of Natural Selection. Dr. Vernon criticises my statement, that the cumulative influence of changed conditions of life are amply sufficient, without the aid of Natural Selection—in which I am only quoting Darwin, though it is corroborated by my own experience—and says: "By no means" . . . "probably in each case by far the larger portion must be ascribed to the ever-present and ever-acting agency of Natural Selection" (p. 391).

Dr. Vernon does not seem to realise Darwin's sharp distinction between "the Origin of Species by means of Natural Selection" (i.e., out of *Indefinite* Variations), and the Origin of Species "without the aid of Natural Selection" (out of *Definite* Variations), to use Darwin's own words. The former was an imaginary process, the latter is the "True Darwinism."

The third chapter deals with "Correlated Variations," and the author gives an account of Galton's methods of investigations and mathematical methods of representations. He proves that though all the organs of the animal body may vary together, yet each is a more or less independent variable. In plants there seems to be much less dependence than in animals, for if any one organ be the object of artificial selection, as a tuber, foliage, corolla or fruit, many races have been established of each, with but little or no change in other parts of the plant.

But all such fluctuating elements as have been measured, as parts of shrimps, crabs, earwigs, &c., do not lead one to detect any evidence of truly varietal and constant characters, upon which alone classification can be based.

As soon, however, as some more pronounced difference is observable, then a difference of habit or something in the surroundings is pretty sure to be suspected or detected, as at least apparently indicating a "direct action," to account for it, as Dr. Vernon notices in the case of Mr. Warren's observations on the crab, *Portunus depurator* (p. 81).

Nevertheless, Dr. Vernon remarks:—"All these results may be taken to show that every part and organ of the body is correlated with every other part in a greater or less degree. . . . The immense importance in evolutionary processes of such correlation, whereby when one organ becomes modified by the action of an agency such as Natural

* By H. M. Vernon, M.A., M.D., Internat. Sci. Series, vol. 88, 1903. (Kegan, Paul, Trench, Trübner & Co., 1903.)

Selection, others are modified also, is sufficiently obvious to need no discussion" (p. 84, my *italics*).

Dr. Vernon here falls into the only too common mistake of attributing "action" and "agency" to Natural Selection. Darwin insisted upon our remembering that it is only a metaphor,* though he often wrote as if he thought otherwise. Perhaps its true meaning will be seen from an example: An epidemic occurs. One individual in one family, two in another, three in a third, are attacked and die, the others may or may not be attacked, but live. That is an example of natural selection. It is only a name for a special "natural law" or "observed facts." The cause of the deaths is known, viz., microbes; and the cause of the survival is known, viz., a strong constitution capable of resisting the "action" of the microbes. Natural selection is only Nature's "Registrar of births, deaths, and survivals," and is neither an "agent" nor an "actor" in the drama of life.

No one can possibly deny the universal existence of natural selection as a natural law among living beings; but it was his attempt to introduce it in his theory of the Origin of Species on changes of structure, which constituted Darwin's original mistake. For in applying Malthus' theory to the animal and vegetable kingdoms in their entirety, he added "structure" as an element of destruction or survival, with which Malthus was not concerned at all. Many are the causes of elimination of the majority of any offspring, e.g., being devoured by enemies, being smothered by stronger individuals among plants, ill-luck as to where the seeds fall, starvation, drowning, &c. But it is *not* due to any slight changes of structure or form, as of "individual differences." These are not "matters of life or death," as Weismann seems to think. Nature does not make "injurious variations" as Darwin suggested, but always evolves the variations in response to the environment or in adaptation to the conditions of life. "New sub-varieties are thus formed without the aid of natural selection" as Darwin maintains.

Dr. Vernon of course, alludes to Weismann's theory that the body or soma, if it acquire any characters, such cannot be transmitted by heredity, i.e., in accordance with his own theory. Dr. Vernon, however, who does me the honour of quoting freely from my books, arrives at the same conclusion as myself, that such acquired characters can be, and most undoubtedly are, transmitted; but to meet the objection that it is inconceivable how the "somatic" effects can be transmitted to the "germ-cells," Dr. Vernon proposes an additional theory that it is done by internal chemical secretions which "pass into the circulation of the body, and there exert some important but unexplained influence on the general metabolism of the tissues" (p. 94).

Not being a zoological biologist, I am not competent to discuss the question from the point of view of one, but in plants I know of no evidence for it. Moreover, somatic characters, i.e., of the "vegetative system" of roots, stems, and leaves of many plants, are acquired long before any

reproductive organs exist, as the tubers of Potatoes, roots of Carrots, &c., foliage of Cabbages, &c. Yet all these have become hereditary traits, and "come true by seed." How the embryos have been able to acquire potentially the capacity of reproducing them is a mystery, but such is the case.

Part II. deals with *The Causes of Variation* under the two groups "Blastogenetic" and "Somatic." The former kind of variations are, according to Weismann: (1) Inequalities of

It is perhaps more applicable to animals than plants, for the evidence of characteristics acquired by the soma and inherited is simply overwhelming in the case of plants.

The fifth chapter, in which blastogenic variations are continued, contains the mathematical details worked out by Galton, Pearson, Mendel, &c. They are clearly stated, but if one looks for some unexceptionable evidence bearing upon the origin of new variations of structure, which a systematist demands, there is little or nothing



FIG. 10.—ALPINE IRISES NEAR THE SIMPLON PASS (FROM MR. CAPARNE).
(SEE P. 22.)

nutrition acting on the individual constituents of the germ-plasm; (2) Amphimixis or sexual reproduction. Both of these sources would at first appear to be more favourable towards supplying help in the investigations for true varietal variations than individual differences, but they seem to be very limited in their effect as causes. The reader is referred to the experiments with rabbits, &c., the conclusion of the author being, that:—"The evidence so far available seems to render it highly probable that the major part of the variation exhibited by organisms is of blastogenic rather than of somatic origin."

forthcoming. Hence, one is not surprised to hear that Prof. Pearson has arrived at the conclusion:—"Whatever be the function of sex in evolution, it is not the production of 'greater variability'" (p. 180).

If the question of hybridity were introduced, then the result of cross-fertilisation is well known to introduce practically an almost unlimited amount of variation. But this is, of course, outside Evolution, properly so called.

Coming now to the true basis of the cause of Evolution—the Responsive power of Protoplasm to the direct action of changed conditions of life

* *Origin of Species*, &c., 6th Ed., p. 63. "It has been said that I speak of Natural Selection as an active power." . . . Natural Selection "only implies the preservation of such variations as arise and are beneficial to the being under its conditions of life."

—the author has deduced, independently of, but contemporaneously with Prof. Pearson, the law that:—"The permanent effect of environment on the growth of a developing organism diminishes rapidly and regularly from the time of impregnation onwards" (p. 199). And he draws another conclusion which is not new:—"Increased variability of environment leads to increased variability of the organisms subjected to it." It has long been observed that more pronounced varieties are seen in a species as it spreads from the centre of its geographical area, simply because it meets with greater variations in the environment.

I think the author is not quite right in his belief that "want of adaptation" is a real factor in variation. Surely it is that until the organism is thoroughly adapted to new conditions of life, it will continue to respond to them, until equilibrium is established. This is apparently the interpretation also of the above "law." Horticulturists place this period as being from five to six years, on the average, before a trustworthy fixity of permanent characters can be secured by heredity.

In quoting several cases of the effect of environment, he alludes to aquatic plants. My argument is that inductive evidence, derived from a great number of dicotyledonous aquatic plants having dissected leaves when they are submerged, satisfies the requirements of "cumulative coincidences," as establishing a natural law, viz., that the water is the cause, and the dissected blade the effect. Dr. Vernon observes that this is "tacitly assumed" to be true, and adds: "It is of course possible that they are partly or even largely indirect, and that the change of habitat merely calls up latent characters long since possessed by the ancestral plants which lived in similar circumstances." This is true for, normally aquatic plants, which have no stomata, and are raised on land by seed, when an abundance of stomata are at once formed, showing that such an aquatic plant as *Ranunculus aquatilis* is descended from a terrestrial species; but the converse is not applicable to account for the numerous degraded characters observable through all the tissues of aquatic plants. Experimental evidence, however, here comes in to corroborate the above induction, for Mr. McCallum grew the plant *Proserpinaca palustris* of the U.S. (which is amphibious, and has dimorphic foliage) in water in which salts were dissolved; these set up osmotic action, which withdrew the superabundance of water from the protoplasm, when the normal aerial or complete form of leaf was at once developed under water.*

The effect of increase of food is discussed, and it is shown that the number of petals of Buttercups increased as additional food was supplied them; in wild flowers, the maximum of the number of petals was five, decreasing rapidly to two; when transferred to a garden the numbers increased. Then the seed of the many-petalled flowers was sown, with the following result in early-flowering plants, viz., nine petals gave the maximum, and in late plants ten. We thus see that the normal pentamerous whorl was replaced by two cycles instead of one. As similar differences can be paralleled in wild flowers, as a permanent diminution in half-starved plants of dry districts, such as the *Tormentil*, some grasses, &c.; and while *Geranium* has ten stamens, *Erodium* has only five, it seems pretty clear that excess and diminution of food, if permanently maintained, may be real and efficient causes of variations in "number." Still, such are all due to the response of the plant to its environment, and fall under the usual source of variations.

Alluding to the great effects of cultivation, Dr. Vernon quotes Darwin, that "one cannot tell how much ought to be attributed to the direct

action of the environment, and how much to selection." This difficulty disappears if selection as a cause of "direct action" be left out of sight as superfluous; for selection does nothing. Because the florist isolates an individual plant which he wishes to preserve, by pulling up all the rest which he does not want, such isolation has no "direct action" whatever; any effect is solely produced by the environment. The gardener might have chosen any other individual, and this would have grown equally well, with or without the former.

In the Third Part, on "Variation in its relation to Evolution," the author restates Wallace's and Darwin's position, viz., Facts granted: (1) geometrical rate of increase; (2) severe struggle for life; (3) individual variations; (4) hereditary transmission; then (5) "it must follow that on an average, more of the organisms possessing favourable variations better adapted to their environment will survive than of those possessing less favourable ones. That is to say, the species will become gradually modified by the action of Natural Selection" (p. 336).

The fundamental error in this last assertion is, that it demands "indefinite variations" for Natural Selection to select from. They do not exist in Nature. Darwin in 1876 confessed that the "greatest mistake" which he made, was in overlooking "definite variations."* These are now seen to be universal, and, as Darwin said, "a new sub-variety is formed without the aid of Natural Selection." So Romanes also said, "If you prove that 'indiscriminate' variations do not exist, you destroy Darwinism *in toto*."

The general impression left upon one's mind after studying this book closely, is that the mathematical analyses and resulting formulæ, curious and interesting though they may be, will not lead us to the true source of the origin of species. The observers, to begin with, are on the wrong tack in basing them upon "individual differences." Darwin is, of course, responsible for this mistake, by inferring that a similar source of variations would be found in the wild state, to the "exaggerated" individual differences which occur under cultivation. Wallace is quite right when he says "they rarely come within the limits of a species." All the laborious work in measuring the carapaces of individuals of one and the same species of crab, or of the length of sparrows, leads to nothing of importance for classificatory purposes, because not only are the differences too slight, but there is no evidence of their having any constancy, and changed conditions of life are not insisted upon.

At present, the conclusion appears to be overwhelming that all variations, upon which varieties and species can be based, are the "definite ones" which arise in all the offspring alike, which are submitted to the same direct action of a changed environment. Then, if they remain for five or six generations under the same conditions, the "acquired" characters become retained and relatively fixed, whether they arose blastogenetically or somatically. *George Henslow*.

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Stocks.—These, when well grown and flowered, are useful subjects during early spring, and in order to get nice plants by that date seed should now be sown in pans or 6-inch pots, carefully drained, and filled with similar material as that advised for *Humeas* in last week's *Gardeners' Chronicle*. Having sown the seeds, place the pots, &c., in a frame, which shade from the sun with a mat till the seed germinates, after which in a few days they may be stood outside. Apply water with

care. Eventually prick the seedlings into boxes 3 inches apart, and before they crowd each other plant them out at 9 inches asunder. When grown in pots, lift the plants, each with good balls of soil, in October, putting three plants in a 7-inch pot. Mix a considerable quantity of lime-rubble with the loam that is used, and plunge the pots in coal-ashes in a cold frame. The East Lothian and the Intermediate varieties are those to be sown at this date.

Salvias.—Cuttings rooted in April will be ready for their final shift into 8 and 10-inch pots, the variety *Azurea grandiflora* doing well in 8-inch, and splendens, rutilans, Heeri, and gesneræflora in the larger size. Let the plants be liberally treated as soon as the pots are filled with roots. Syringe them about 3 P.M. in hot weather; secure the growths to a neat stake, as they easily snap off with the wind, and stand the plants in a sunny position out-of-doors, not allowing them to suffer lack of water. The compost recommended by me for potting *Chrysanthemums* a few weeks ago is suitable for *Salvias*. After they make a fresh start nip out the points of the shoots, doing the same a few weeks later; but do not pinch *S. azurea grandiflora* too freely or the racemes will be short.

Francoa ramosa.—This is a most useful greenhouse flowering plant during the next two months, and requires liberal feeding now that the flower-spikes are pushing up; and by placing part of the stock under a north wall, a lengthened period of bloom may be had. Support the spikes to a neat stake, but do not tie in too stiffly, as the plants show to better advantage when allowed a certain amount of freedom. *F. appendiculata* and *F. sonchifolia* are also worth growing for variety, being pale red or pink with a dark blotch at the base. Young stock should be placed in 4-inch pots and kept in a frame for a week or two longer; about equal parts loam and leaf-soil with a little sand will suit them.

Cinerarias and *Primulas*.—Transfer to 3-inch or 4-inch pots the plants from the earliest sowings, using similar soil to that just mentioned, keeping close for a few days, and shade from the sun. Cold pits or frames having a coal-ash bottom afford the best position for these plants during the summer. Dew the plants overhead mornings and early in the evening; and fumigate lightly two successive evenings should green-fly appear. Prick out into pans or boxes later sowings, and treat as before mentioned.

FRUITS UNDER GLASS.

By T. H. C.

Tomatos.—Plants in pots recently top-dressed will require abundant supplies of liquid manure and an occasional sprinkling of Thomson's Vine-manure, followed by an application of water. Let lateral shoots be pinched short back, and remove that part of the foliage which deprives the fruit of the benefits of direct sunlight. Do not afford water in excess, but incline rather to the dry side in affording water to plants growing in borders, and maintain buoyant conditions in the house. Ventilate freely at the top and bottom in warm weather.

Pot Vines.—Afford good cultivation to Vines in pots that will be forced next year, guarding, however, against the production of soft, sappy growth difficult to mature. Farmyard-manure-water and Thomson's Vine-manure may be afforded when the roots have permeated the soil in all directions. Pinch off tendrils, and stop lateral and sub-lateral shoots at the first leaf, and syringe the foliage daily, and admit air freely in fine weather, and in greater quantity towards the end of the month, so as to mature the Vines. Keep a night temperature of 70° and 80° to 85° by day, and damp down frequently on days that are bright and warm.

Young Vines.—The lateral shoots on Vines planted this year should not be shortened or root action will not be vigorous; at the same time, do not allow them to become overcrowded, but regulate them in such a manner that the chief leaves may have space for development. Syringe the Vines once daily, and maintain a moderately moist atmosphere. Close the house about 3 P.M., allowing the warmth to rise to 80° or 90°; the night temperature ranging from 65° to 70°.

* *Botanical Gazette*, vol. xxxiv., August, 1902, p. 93.

* In a letter to Prof. Wagner, of Munich, 1876.

Early Vineries.—Those vineries from which the Grapes have been cut should have the woodwork and the foliage of the Vines cleansed with the garden-engine or water-hose, and all superfluous growth removed from the Vines, being careful to preserve the leaves at the base of the laterals, so that the buds for producing next year's fruiting laterals may be properly developed. If necessary, apply a rich mulch of farmyard manure to the borders, the manurial properties of which will be carried down to the roots when water is applied. Where no mulch is necessary apply liquid-manure or some artificial fertiliser. Open the ventilators widely night and day, and for the present continue to damp down by day in bright weather. Muscat of Alexandria and other Vines having ripening crops of fruit should be afforded a dry atmosphere and more or less constant ventilation, according to the state of the weather. Let the paths be damped down in dry weather, the humidity arising therefrom refreshing the Vines without it being harmful to the Grapes. Afford Muscats a night warmth of 70°, and other Grapes 5° less. Lady Downes approaching the stoning stage requires a constant circulation of air to prevent the scalding of the berries, therefore afford some amount of ventilation during the night by the top and bottom ventilators, and increasing the amount early in the morning and at intervals during the forenoon, if it be called for.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. Pigott, Bart., Wexham Park, Slough.

Asparagus, if planted on raised beds, often suffers in dry weather, and the system is only suitable for a very early crop. If the land be well drained and the soil sufficiently deep, the flat system is undoubtedly preferable for the general crop. Fish manure or Clay's fertiliser make excellent manures for Asparagus, if plenty of water be afforded the plants in dry weather; but failing these there is no better stimulant than the drainings from the stables. Let the beds be thoroughly soaked once a week during dry weather until the plants have completed their growth. Young beds should be mulched with manure from a spent Mushroom-bed, or if the soil is very light some well-rotted cow-manure will be better. In order to prevent the growths from being broken off by winds, insert some Peasticks between the plants, or a few strings of tarred twine drawn to stout stakes placed at suitable intervals will answer equally well.

Winter Onions.—The white Tripoli sorts that have finished their growth should be pulled up and laid in the full sun to dry. Other autumn-sown varieties, such as Giant Lemon Rocca and Improved Reading, may still be afforded ample supplies of manure-water.

Turnips.—A moderate sowing should be made forthwith in a somewhat shady position. If the weather be hot and dry, water the drills several times over previous to sowing the seeds, and where practicable cover the ground with garden-mats or several thicknesses of fish-netting, until the seeds have germinated. Sow the seeds on land that has not been dug recently, or if this is inconvenient make the soil very firm by treading. Sow thinly. Turnips delight in cool nights; water should therefore be afforded late in the day. The plants should be dusted over every four or five days with soot and wood-ashes. Turnips that have made medium-sized bulbs should not be allowed to remain too long in the ground, or they will become stringy and of little value, but be lifted and stored in sand or ashes under a north wall, where they will last in good condition for some time. Later sowings should be thinned, and the surface soil kept constantly stirred with the Dutch-hoe. During showery weather apply small dustings of artificial manure and soot in equal proportions over the surface of the soil.

Winter Greens.—If the planting-out of various kinds of Broccoli, Savoy, and Kales has been delayed from any reason, let the work be done at once. Ground which has been occupied with early Peas may be selected for this late planting, as it is essential to plant on very firm ground. Allow plenty of space between the plants. Plants put out thus late often suffer less in a severe winter than those planted earlier.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Bedding Plants.—The difficulties which beset the Calendar writer on outdoor subjects when he tries to adapt his work to the country at large have been well exemplified during the past few weeks. In this district, with a rainfall of only just over 1 inch since May 18, plants are suffering greatly from drought, and the affording of water is an important operation. In the southern parts of the country there has been an over-abundance of rain, with the result that with a return of sunshine the surface has become hard and impervious to the air. All soils that have become thus compacted should be well stirred and broken up with the hand-fork or hoe; and to some extent this follows where water has been afforded artificially. Beds of zonal Pelargoniums should have the older flower-trusses, together with decaying leaves, frequently removed, so as to relieve the strain on the plants and induce good growth. This sort of treatment should be applied, so far as labour serves, to all kinds of flowering bedding plants, especially to such as have a tendency to produce seeds early. The pegging down of trailing plants, the training of climbers, and the staking and tying of the taller bushy plants, such as the early-flowering Chrysanthemums, are operations that will now need constant attention.

Pinks.—Pipings, if struck in the manner recommended some time ago, if now ready for removal, may be set out singly at about 3 inches apart in a nurse-bed for transplanting in the early autumn, or they may go direct into the places where they are intended to flower. The former is perhaps the better method, as when planted all together they are more readily looked after. Should the weather be bright, afford the plants a thin shade during the hottest hours.

Wallflowers.—Seedlings will now be of a sufficient size for pricking off. When taking them from the seed-boxes or bed, pinch off a small portion of the tap-root, in order to induce the formation of numerous lateral roots, and plant in a rather poor soil and an open situation so that the growth may be firm.

Hollyhocks.—Seedlings grow better if transplanted direct from the seed-bed to nurse-beds when of small size, and again transplanted either late in autumn or early in spring to positions where they are to flower. Hollyhocks require an open position and good rich soil.

Foagloves sown early may be similarly treated, but an open position is not so necessary for these plants; the soil, however, should be rich and well-drained. In the early autumn they may be planted where they are to flower.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maldenhead.

Layering Strawberries.—This work should be taken in hand forthwith, so that strong plants may be obtained for planting in August. The soil on which Cucumbers have been grown forms a good medium in which to layer the plants. If pots be employed, let them be of 3 inches in diameter—60's. Care should be taken in selecting the runners, as it frequently happens that many of them are injured whilst the fruit is being gathered. Let each runner be fixed firmly on the soil by means of a wooden or wire peg, and stand the pots as close together as possible in alternate spaces between the rows, for convenience in affording water. During dry weather the layers will require water twice and thrice a day. Good varieties on most soils are James Veitch, The Laxton (a very strong grower at Dropmore), Royal Sovereign, President, Sir J. Paxton, Elton Pine, and Laxton's Latest-of-All. On suitable soils, British Queen cannot be beaten for flavour and size, and this variety should always be grown in gardens of which the soil is suitable.

Hints on Work in General.—Raspberries are commencing to colour, and in gardens where thrushes and blackbirds are numerous, nets must be placed over the rows forthwith, making them secure against these marauders. It is good practice to make a final thinning of the canes before this is done; and where they are suffi-

ciently advanced in growth to be fastened loosely to the stakes or wires with bast or soft string so that they do not get injured whilst the fruit is being gathered. Autumn-fruiting varieties should likewise receive attention in this matter; but the canes should not be tied up closely; on the contrary, loosely, so that the sun and air may mature them properly. The weather during the past week having been dry and hot has afforded a good opportunity for destroying weeds; and this useful work must be actively pushed on, so as to get them cut down before seeding can take place. Ply the garden engine on wall fruit-trees about 4 p.m. on bright days.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Ventilation.—The early part of the present season was very unfavourable to Orchids, especially to those of the warmer section that commence to grow early in the spring. It was necessary to use much more fire-heat than is usual at that period. Since the welcome change to summer weather, it has been possible to maintain a healthy atmosphere in the houses by admitting plenty of fresh air at all times, and using as little artificial heat as possible. The question of ventilation is one that the cultivator should study carefully. Cold draughts blowing directly upon the plants must always be avoided, and this may be done if care be taken to ventilate on the leeward side of the house. It is a mistake to close the houses early in the afternoon, and leave them closed until next morning. At Westonbirt, bottom air is left on the warmest houses during the night whenever weather permits; and in the intermediate and cooler divisions a little top air is allowed whenever practicable. The ventilators are opened in the evening after the houses have been closed for a few hours. I am satisfied that the plants make harder and stronger growth than they would do if they were shut up all night in a close and stuffy atmosphere.

Shading.—Such plants as Cypripediums, Odonoglossums, and other shade-loving species will require shading during the middle hours of bright days, especially if the houses are in an exposed position. If a layer of thin tiffany be tacked over the roof, or a thin coat of whitewash put on, it will answer the purpose well. The blinds need not then be lowered so early in the morning, and may be raised earlier in the evening. To such houses as contain Cattleyas, Lælias, Dendrobiums, Calanthes, &c., that require plenty of sunlight, the early morning and late afternoon sunshine may be admitted with advantage.

Damping the Houses.—Abundance of moisture is now needed in all departments, therefore the syringe or hose-pipe should be used freely for damping the floors, walls, and stages, thoroughly doing this twice or thrice daily. The Muratori hand-sprayer should also be brought into use on bright days, for damping the plants overhead in the morning, and again at closing time in the afternoon. Nearly all Orchids benefit by overhead spraying on dry, hot days, and the extremely fine mist-like spray produced from this instrument is beneficial to all plants that cannot endure heavy syringing, there being no danger of the growths becoming filled with water if due care be taken in using the sprayer. For seedling Orchids the "Muratori" is invaluable.

INSECT PESTS TO FARM CROPS.—With *The Profitable Farm and Garden*, June 20, was presented a coloured plate of the chief farm crop pests. The plate shows such well-known pests as the Turnip Sawfly and its larva, the Wireworm and its parent, the Leather-jacket Grub, Corn Thrips, False Wireworms (Millepedes), and the Cockchafer grub. The pests having been portrayed clearly in their distinctive colours, the merest novice will have no difficulty in recognising them. The plate will not only be of special value to the agriculturist, but will be welcomed by school teachers in rural districts, as well as by agricultural instructors.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, JULY 14	Cambridge Horticultural Society's Show. National Rose Society's Northern Show at Glasgow. National Sweet Pea Society's Exhibition at Earl's Court.
WEDNESDAY, JULY 15	Rose Shows at Formby, and Thornton Heath. Ipswich Horticultural Show. Nottingham Horticultural Show (two days).
THURSDAY, JULY 16	Higkate Horticultural Society's Show.
FRIDAY, JULY 17	Royal Botanic Society. Lecture.

SALES FOR THE WEEK.

FRIDAY, JULY 17—Imported and Established Orchids; also 1000 Imported Crispums, at Messrs. Protheroe & Morris' Rooms, 67 & 68, Chancery Lane, E.C.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —63.3.

ACTUAL TEMPERATURES:—

LONDON.—July 8 (6 P.M.): Max. 71°; Min. 49°.

July 9 (Noon): overcast; warm, 76°.

PROVINCES.—July 8 (6 P.M.): Max. 68°; South-eastern Counties; Min. 47°; Shetland.

FROM the Royal Botanic Gardens, Kew, has been issued a second edition of the Hand List of Conifers growing in that establishment. The number of Coniferous plants now enumerated includes two hundred and forty-six species, and four hundred and fifty-one varieties, named and arranged according to the most recent information. Mr. BEAN contributes some interesting details relating to the dimensions of some of the principal species—for instance, the Japanese *Abies brachyphylla*, one of the most desirable of comparatively recent introduction, measures 29 feet in height; *Cedrus atlantica*, 60 to 70 feet; *C. Libani*, 69 feet; *Cupressus macrocarpa*, 49 feet; *Ginkgo biloba*, 61 feet; *Picea Omorica*, the Serbian Spruce, a recent introduction, thrives well at Kew, where it has attained a height of 17 feet and is a most promising species; *Pinus Coulteri*, 54 feet; *P. excelsa*, 62 feet; *P. flexilis*, 31 feet; *P. Lambertiana*, 63 feet; *P. Laricio*, 86 feet; *P. palustris*, 19 feet; *P. Strobus*, 74 feet; *P. silvestris*, 79 feet, &c. The Pinetum has been carefully developed on the lines laid down by Sir JOSEPH HOOKER, who made a special study of these plants, and is specially interesting from the juxtaposition of European forms with corresponding species from Japan and North America.

The collection is carefully named, and most of the trees are doing well. Some of the Spruces and Silver Firs thrive less well than the Pines and Larches, owing to unfavourable climatal and atmospheric conditions inseparable from Kew; but they are replaced when necessary by younger and healthier specimens, so that the Kew Pinetum remains, what Sir JOSEPH HOOKER intended it to be, the finest and most complete collection in the world. If the managers of the Brentford factories can be induced to abolish or even to diminish the injury caused by smoke (and something in this direction has, we believe, been accomplished), the Pinetum may long remain to interest admirers and students of Conifers, and to furnish practical hints to foresters and others concerned with the economic employment of the trees.

It may be well to remind those interested that the collection of cones formerly placed in the museum opposite the Palm-house, is now preserved in an annexe at the rear of the wood museum, an annexe which occupies the site of a previous building (if it be not the same modified). This building has special interest to those who have long memories or who are concerned in the Indian flora, for it was there for a long time that the collections brought home by Sir JOSEPH (then Dr.) HOOKER and Dr. THOMSON were stored. Here it was also that the plants were examined, sorted, and collated with the collections of GRIFFITH and others. Here also was laid the foundations of that noble *Flora Indica*, of which unfortunately only a fragment was completed, its place being taken by the very useful, very extensive, but less ambitious *Flora of British India*, now completed.

We have only to add that the Hand List is indispensable to lovers of and dealers in Conifers, and that it may be obtained direct from the gardens at the cost of a few pence.

WE are very often asked to recommend some means for the removal of Confervoid and other vegetation from the surface of Lily-ponds and similar surfaces of water. Raking off the growths, the services of ducks and swans, running off the water for a time, and other means all more or less futile and unsatisfactory have been recommended, but we confess we had never thought of employing the Bordeaux mixture for this purpose. Mr. HEDRICK, in *Gardening*, a Chicago journal, now tells us that in twenty-four hours after the surface of a pond in the grounds of the Michigan Agricultural College had been sprayed with Bordeaux mixture, every vestige of the green scum had disappeared, and at the end of another day it had sunk to the bottom. The spraying needs repeating after about a month. No harm accrued to the fish and frogs in the pond, but the mosquitos were materially checked. The Water-Lilies were unharmed, except on one occasion, when the mixture was used too strong. As circumstances, such as temperature, depth of water, and the like vary, it is recommended that the application be used tentatively and on a small scale in the first instance, so as to ascertain by experience the proper strength of the mixture.

SWISS IRISES (see Supplementary Illustration and fig. 10).—Comparatively few tourists visit Switzerland in spring—more's the pity!—the consequence is that it comes almost as a surprise to hear of Irises in Switzerland, so little are they associated in our minds with the Alps and valleys of that fascinating land. In few of the handbooks for tourists are they even mentioned. Nevertheless there are some nine or ten species, which may readily be grouped under the headings "bearded" and "beardless" respectively, and then by the number of the flowers and other characteristics. *I. virescens*, which occurs in the Rhone Vallée, near Sion, has pale yellowish flowers, appearing in early spring. *I. pumila*, also spring-flowering, well known as an edging-plant, has flowers varying in colour from blue, yellow, to white. *I. variegata*, a summer-flowering plant, has yellow flowers with purple veins. *I. pallida*, flowering in May, has violet flowers. *Iris germanica* is too well known to need description; it grows under the shadow of Mt. Blanc. Among the beardless species are *I. pseudacorus*, our common Flag, with yellow flowers; *I. sibirica* and *I. graminea*, both with violet-coloured flowers, flowering in early summer. For our illustrations (fig. 10 and Supplement) we are indebted to Mr. Caparne, who has known how to turn these beautiful flowers to advantage, and has enriched our gardens with a whole series of delightful novelties.

KEW.—Among the Orchids now in flower at Kew the following are noteworthy:—*Angraecum Eichlerianum*, *Bulbophyllum vitiense*, *B. barbigerrum*, *Cirrhaea viridi-purpurea*, *Cymbidium rhodochilum*, *C. cyperifolium*, *Dendrobium trinervum*, *D. Jerdonianum*, *Diplocentrum congestum*, *Dipodium pictum*, *Eria late-bracteata*, *Eulophiella Elizabethae*, *Geodorum candidum*, *Habenaria rhodochila*, *Hæmarea Dawsoniana*, *Lipostachys forcipata*, *Megaclinium angustum*, *Masdevallia muscosa*, *Oberonia ensiformis*, *Ornithidium nanum*, *Pelexia maculata*, *Polystachya rhodoptera*, *Renanthera Storeyi*, *Sarcochilus Roxburghii*, *Spathoglottis kewensis*, *Zygopetalum cochleare*, and *Z. stapelioides*.

"THE BOTANICAL MAGAZINE."—The plants figured in the July number are—

Senecio clivorum, Maximowicz, tab. 7902.—See HENRY in *Gardeners' Chronicle*, 1902, ii., p. 217. Hort. Veitch.

Helleborus lividus, Aiton, tab. 7903.—A Majorcan species, previously not well defined, with the lobes of the leaves nearly entire, and with panicles of dull violet-coloured flowers flushed with green. Trinity College Botanic Garden, Dublin.

Iris lupina, Foster, tab. 7904.—See FOSTER in *Gardeners' Chronicle*, 1887, p. 738. Hort. Kew.

Huernia concinna, N. E. Brown, tab. 7905.—A Stapelia-like plant with small yellowish spotted flowers from Somaliland. Hort. Cambridge.

Calothamnus rupestris, Schauer, tab. 7906.—A West Australian shrub with linear leaves and clusters of flowers, the most conspicuous part of which are the five crimson stamens, each of which is much branched, the branches bearing a solitary yellow anther.

EXHIBITION SCHEDULES.—The schedule of prizes to be offered by the SCOTTISH HORTICULTURAL ASSOCIATION at the Chrysanthemum and Fruit show, to be held on Nov. 19, 20, and 21 next, is an unusually liberal one. The first class is for twenty vases of Japanese Chrysanthemum blooms in twenty varieties, three blooms of each; and the 1st prize, presented by the Lord Provost, Magistrates, and Town Council of Edinburgh, is a piece of plate value £20, and £10 in money. The 2nd prize is £20; 3rd, £15; 4th, £10; and 5th, £5. Another important class will be that for twelve vases of Japanese blooms. It

is very gratifying to us, after our repeated criticisms of the method of exhibiting Chrysanthemum blooms on boards, to note that in Edinburgh, where undoubtedly some of the finest exhibitions in Britain are held, the boards have been quite superseded by vases. The shows will gain so much in interest and attractiveness by the change, there need be no fear of a return to the inartistic appliances happily discarded. In addition to the classes for cut blooms, there is ample provision for Chrysanthemum and other decorative plants in flower, and with ornamental foliage. Grapes, Apples, and Pears will be shown in fifteen classes, and there are twenty classes or so for vegetables. The Secretary is Mr. PETER LONEY, 6, Carlton Street, Edinburgh.

THE NELSON AND DISTRICT HORTICULTURAL AND INDUSTRIAL ART SOCIETY will hold a show of plants, flowers, fruit, and vegetables, and industrial handicrafts, on Saturday, August 22. The Secretary is Mr. T. STANLEY STOUT, 78, Brunswick Street, Nelson (Lancashire).

THE BEDALE ROSE SOCIETY'S EXHIBITION will be held on July 20. The Secretary is Mr. THOS. LINSKOTT.

M. MOTTET.—A prize of 250 francs has been awarded to M. MOTTET by the National Society of Horticulture of France in recognition of his work on Conifers, lately mentioned in these columns.

M. MOSER, of Versailles, has been promoted to the grade of Officer of the Mérite Agricole.

WATER CARNIVAL AT GHENT.—A carnival of flowers, to be held on the water, is to take place at Ghent on July 19, under the auspices of *l'Avenir Horticole*. Much interest is felt in the forthcoming fête, both by florists and by the participants, to whom seven sections are open. Many entries have been made, and from town and country strange craft of various descriptions are expected, notably some Zeeland "chaloupes," manned by natives in their picturesque costumes. Everything promises well for the success of the procession of decorated boats, and we hope the weather will be fine on the occasion. Applications for detailed particulars may be had from *Avenir Horticole*, Place du Commerce, 13, Ghent.

THE POSITION OF BRITISH FORESTRY.—The rapid progress of the arts of peace in South Africa is marked by the appearance of the *Transvaal Agricultural Journal* (issued by the Agricultural Department), which, although only in its third number, shows great vitality in itself, and as regards the subject to which it is devoted. In a lecture on forestry printed in this publication, and contributed by D. E. HUTCHINS (Conservator of Forests, Cape Town), we find some pregnant remarks on the present state of forestry in Britain. The author says that "The position in England to-day, extraordinary though it appears to an outsider, is this: £20,000,000 sterling (or the total cost of the army before the war) is paid yearly for imported timber, which could be grown two or three times over within the British Isles if the forests had not been destroyed, or if they were restored by replanting." Mr. HUTCHINS has something to say about our present involved system of arithmetical tables. He remarks that:—"England is intensely conservative. We are the only civilised people who use weights, measures, and coinage which are not metrical; and the funniest part about this is, that while most other countries had to give up their money and adopt foreign money, we have a decimal system which can be adopted without changing our money; all that is required is to keep accounts in pounds, florins, "tickeys," and farthings, instead of pounds, shillings, pence, and farthings. The small adjustments required in the present value of the "tickey" and farthing

would pass unnoticed. However, this is a digression." Returning to his subject, the author sums up thus what England has to gain by forestry:—"1. £20,000,000 spent every year for wood that could be equally well grown at home; 2. Consols, at 2 per cent., national forests will return 3 per cent. and upwards; 3. Shrinkage in foreign sources of timber supply; 4. Fall in the value of land in Britain; 5. Livelihood for the country population; 6. Recreation ground for the townsfolk; 7. Aid in defending the country against invasion; 8. National insurance; 9. Abatement of smoke nuisance in towns. Pondering these things, the conclusion to a colonist and a forester is irresistible. England's great want at this time is national forestry; and as one reckons up the gains—£20,000,000 more produced yearly in the country, 75,000 people kept on the land; a forest playground for every man, woman, and child, with a fostering of the love of Nature and the beautiful; less smoke—when one considers that this can be produced at no final cost to the public exchequer (probably a considerable gain), and that for a moderate extra cost we obtain strategic forests and a defensive forest militia—pondering, I say, these things, the strange puzzle of the present position becomes stranger and stranger."

CLIP TUBE-HOLDERS.—There has been found hitherto a difficulty to fix flowers (in vessels of water) in awkward places, such as altar-screens, pulpits, pillars, mirrors, curtains, &c. The "Handy Clip," brought out by Mr. GODFREY, of The Nurseries, Exmouth, supplies what has been so long desired, and will prove a boon in decorating churches, halls, and rooms in general. It is a simple arrangement by which a metal funnel-shaped tube to hold flowers can be affixed in positions where it is not possible to drive a nail or otherwise fasten a support for flowers in water. Altar-screens, pulpits, pillars, mirrors, can easily be decorated without the aid of nails. A piece of string, cord, or small rope is tied around and suspended from any projection on which the "Handy Clips" can be fixed. By their aid, curtains, draperies, &c., may be quickly festooned with flowers. A bamboo or any other stick or rod may be stuck among the foliage or other plants, or in a flower-pot of soil, and can be readily dressed with flowers.

DUSSELDORF.—It is proposed to hold an International Art Exhibition in Dusseldorf from May 1 to October 23, 1904. Of this, the Horticultural section comprises a series of monthly shows. In May will be exhibited early-flowering plants and vegetables; in June, flowers in general, and Roses in particular; in July, summer fruits, flowers, and shrubs. Cut flowers and floral decorations will be included in every monthly exhibition. Besides these, exhibits are invited of all kinds of horticultural tools and implements, propagating-houses, greenhouses and conservatories, of irrigating machinery, mowing machines, of apparatus for the transplanting of trees, of thermometers, barometers, and microscopes, of rock gardens and the necessary cements and stones for their formation; of wines, liqueurs, and perfumes; and in short, of everything that, even in a remote degree, bears upon the subject of horticulture.

FRUIT-GROWERS' DEPUTATION TO THE BOARD OF AGRICULTURE.—A deputation from the National Fruit-growers' Federation and the Herefordshire Association waited on Lord ONSLOW on Monday, June 29, for the purpose of calling his lordship's attention to the very serious losses sustained by the industry through the ravages of blight and insect pests, and urging him to grant a Government enquiry into the whole subject, with a view to concerted action for their eradication. The deputation was introduced by Sir JAMES RANKIN, Bart., M.P., and Colonel C. W. LONG, M.P. (President of the National Fruit-

growers' Federation). Messrs. RADCLIFFE COOKE, C. D. WISE, W. HORNE, A. GRANT, H. F. GETTING, and J. RILEY were all present, and spoke on the subject. Sir JAMES RANKIN referred to the Bill introduced by him in the present session, which provided that all nurserymen's stock should be inspected, and that compulsory dressing should be resorted to in their case. This Bill has been withdrawn, and there appears to be a general feeling among growers that any compulsory measure, if adopted, should be extended to orchards as well as nursery stock. The members of the deputation were, however, agreed that more information was required before legislation is resorted to; and they therefore pressed on the President of the Board the necessity for an official enquiry into the nature of the various orchard pests, and the extent to which they would be preventable, as well as to how compulsory dressing would be regarded by growers. His lordship said in reply that he quite recognised the importance of the subject, and was very glad to have heard the views of the deputation, with which he was generally agreed, and promised that a Departmental enquiry should be held, commencing work after the coming recess.

THE ROTHAMSTED EXPERIMENTAL STATION.—The experimental plots have again been visited by several parties, who were shown round by the Director. On June 30 Prof. JAMES WILSON and nine students from the Irish Agricultural Department, Dublin, came. On July 2 a party of about twenty members of the Canterbury Farmers' Club, under the direction of Mr. W. W. BERRY; and on July 4 a party of between forty and fifty teachers connected with the Surrey County Council were conducted round the plots.

NATIONAL DAHLIA SOCIETY.—A meeting of the committee of the above Society will be held at the Horticultural Club, in the Club Room of the Hotel Windsor, Victoria Street, S.W., on Tuesday, July 21, at 2 p.m.

THE MIDLAND CARNATION AND PICOTEE SOCIETY.—The forthcoming exhibition of the Midland Carnation and Picotee Society, owing to the lateness of the season, will be held, as usual, at the Botanical Gardens, Edgbaston, Birmingham, on Thursday and Friday, August 6 and 7.

GINSENG CULTURE.—We cite the following extract in view of the great difficulty experienced by expert cultivators in managing this plant:—"Ginseng plants are most exacting in their requirements. They must have just the right climate, the right soil—and that is very hard to find or make—and they must have the very shadiest of shady locations. A cool, even temperature, and deep, loose wood soil, are essential. It is little evidence of future success to know that Ginseng grows in the woods near where it is proposed to plant a garden. Common garden conditions will not do at all. Nor will a shady place in the woods do very well. Growing under sheds is the best way. The roots are almost sure to be stolen, unless very closely watched. Insecurity is one of the main obstacles to final success. My advice is that nearly every one let the Ginseng business alone, and only plant after the closest study of the subject." H. E. Van Deman, in *Rural New-Yorker*.

THE ANT-POISON CASE.—Considerable interest has been excited in a case where certain manufacturers in Scotland were prosecuted by the Pharmaceutical Society, whose prescribed duty it is to undertake such duties, even at a loss to the Society. The charge was that certain manufacturers, without complying with the terms of the Pharmacy Act, sold a mixture containing a very large quantity of arsenic for the purpose of destroying ants. The manufacturers have now been convicted and fined the maximum penalty; but they have appealed against the

decision, and hence comment on this particular case would be improper. On the general question of the protection of the public from the risk of accidental or malicious poisoning there cannot be two opinions.

SEEDLING PALMS AS TURF.—M. ANDRÉ tells us that at Cannes and Nice and elsewhere along the Riviera it is becoming the custom to sow beneath the trees seeds of *Phoenix canariensis*. The seeds are sown very thickly, so that the seedlings form a sort of "grass plot" beneath the trees. After a year or two the baby seedlings grow into juvenile Palms with a different shape of leaf not so well adapted for the purpose, and they are then removed, and fresh seeds sown.

APETALOUS KALMIA.—To Mr. ANTHONY WATERER we are indebted for flowers of *Kalmia latifolia*, entirely devoid of petals, but otherwise normal. The stamens are strongly recurved, but there are of course no pockets in which to contain the anthers and keep them out of the way of the stigma. Whether the absence of the corolla is a device to secure close fertilisation, as happens in cleistogamous flowers, we cannot tell, as the flowers were withered when we received them.

STOCK-TAKING: JUNE.—It is pleasant to have the opportunity now and again to nudge the prophets by recording a rise. This month the Trade and Navigation Returns enable us to state the fact that there is an increase in both imports and exports, when compared with the month of June last year. The value of last month's imports was £41,295,550, against £40,665,315—a gain of £630,235. The figures in the following little table show the relations borne by food and drink imports to all others, as also that between duty free and dutiable items:—

IMPORTS.	1902.	1903.	Difference.
	£	£	£
Articles of food and drink—duty free ...	9,368,756	10,204,043	+835,287
Articles of food & drink—dutiable	8,287,970	7,845,909	—442,061
All other Imports...	23,008,589	23,245,598	+237,009

There is a large falling off in grain and flour, in part compensated by increases in other sections, and the altogether favourable accounts from all over Canada, &c., with respect to the crops no doubt much affecting speculation. Currants, we note, gave way some £23,656, whilst raisins went up £7,688. Having got to fruit, we now give our usual table of fruit, root, and vegetable imports:—

IMPORTS.	1902.	1903.	Difference
	Cwt.	Cwt.	Cwt.
Fruits, raw—			
Apples ...	35,749	41,125	+5,376
Apricots and Peaches	2,546	1,471	—1,075
Cherries ...	59,501	51,790	—7,711
Currants ...	3,027	5,465	+2,438
Gooseberries ...	11,427	14,862	+3,435
Grapes ...	1,136	1,406	+270
Pears ...	56	606	+550
Plums ...	998	519	—479
Strawberries ...	22,022	25,695	+3,673
Unenumerated ...	4,954	10,450	+5,496
Vegetables, raw—			
Onions ... bush.	165,558	351,938	+186,380
Potatos ... cwt.	1,536,143	1,510,589	—25,554
Tomatos ... "	136,262	146,895	+10,633
Vegetables, raw, unenumerated ... value	£47,874	£39,645	—£8,229

Respecting the foreign Plum crop, we receive information from the Bordeaux district that there is every sign of failure, inaugurated by the severe frost in April last; the same influence has been at work in Bosnia, where an average Plum crop

was anticipated a few weeks since. It is satisfactory to note that from most parts of Canada the fruit prospects are excellent, both for Apples, Pears, stone and small fruit of all kinds. The reader will have learnt since our last report that the little arrangement in Greek Currants has been upset by the intervention of Great Britain and other great Powers doing business in that part of the globe and having commercial treaties with the Greek Government. They objected to the intervention of syndicates, and the matter has been allowed to drop by Government and syndicate. This is as it should be. Whilst Oranges and Lemons are waxing unhealthy in appearance, it may be interesting to take brief stock of the last crops in Italy, furnished from a reliable source. The number of fruits in the last crop was 4,900,000,000—an increase over the previous year of 425,000,000, and of some 370,000,000 over the average crop. The value of the wood and timber imported last month was some £2,738,302 against £2,537,708 for June in last year, an increase of about £200,594. The value of the imports for the past six months is placed at £260,529,889, against £262,740,088 for the same period last year—a decrease of £2,210,199. And now a few words respecting the

EXPORTS

for the month of June. The value is placed at £22,271,960, compared with £21,252,383 for June, 1902—an increase of £1,019,577. It is stated that the purchasing capacity of a nation of workers is the value of its exports; the figures we are in the habit of quoting here is proof for the value of the statement, and that so far we are on the right purchasing track is vouchsafed by the record of the six months' value—namely, £142,522,625, against £135,375,574 for June, 1902—an increase of some £7,147,051.

VARIEGATED MAPLE.—Mr. REID, of Elgin, sends us leaves of a beautiful form of the Norway Maple. The long leaf-stalks are of reddish colour; the roundish leaves are cordate at the base, palmately divided nearly midway down into five broadly lanceolate entire or sometimes slightly lacinate lobes. So far there is little or nothing to separate this from the type; but when we come to the colour of the leaves it is a very different matter, the whole of the disc of the leaf being green, with a very deep edging of white. The variegation is almost entirely marginal, and varies in depth in different leaves. It reminds us of the variegated *Negundo*; but this has apparently the advantage of greater robustness, and does not appear likely to burn. The variety was sent out a few years since by Messrs. DRUMMOND, of Stirling.

"THE BOOK OF THE HONEY BEE."—By CHARLES HARRISON. (JOHN LANE: The Bodley Head, London and New York.) If the modern bee-keeper fails, it is not for want of good instruction. Much is being done nowadays to encourage his old and useful industry; personal teaching from experts is easily obtained, and there are many books on the subject. Those thinking of starting bee-keeping will do well to have a few lessons from a professional, but will still not be able to dispense with a reliable handbook. From the *Book of the Honey Bee* they can learn as much as is required of the general habits and customs of bees, and will get some idea of the care that they require. For reference, also, the book should be useful to the experienced bee-keepers. The chapter on the Sources of Honey mentions the plants that yield most to the bees, and this and many other pages are well illustrated. The pictures of bee life that are reproduced from photographs are especially interesting. A bee-hive is a charming and often a profitable addition to any garden wherein room can be found for it and the comparatively small amount of care can be spent upon it.

PUBLICATIONS RECEIVED.—*The Century Book of Gardening*, part x., includes articles on Exhibition Roses, by Edward Mawley; Flower Gardening in the Grass, and The Greenhouse and its Flowers.—*The Wide World Magazine*, July. Full of wonderful tales of adventure and of more ordinary travel, and including an illustrated article on the Narcissus Festival at Montreux.—*Report of the Department of Agriculture and Immigration (Manitoba)* for year ending December 31, 1902. "This year will long be remembered as the most prosperous year experienced in the history of the province of Manitoba." A bountiful harvest was safely garnered and sold at remunerative prices, and there is increased activity in all business.—*Notes on the Natural History, &c., of Western Australia*, being extracts from the W. A. Year-book for 1900-01, by Malcolm A. Fraser. A republication, in a separate volume, of interesting scientific papers by specialists, dealing with such characteristics of the country as its geography, geology, climate, flora, fauna, &c. The paper on the Vegetation of Western Australia is by the capable hand of Mr. A. Morrison, Government Botanist; and there is also a list of extra-tropic Western Australian plants by the late Baron von Mueller, revised and augmented by Mr. Morrison.—*Annual Administration Report of the Forest Department of the Madras Presidency*, for the twelve months ending June 30, 1902. "The record of the year's work is satisfactory and creditable to the Department."—*Bulletin de la Société Française d'Horticulture de Londres*, 1902. This has a frontispiece-portrait and appreciative notice of the late Mr. C. Maries; reports of the society's meetings; various papers dealing with horticultural subjects, notably one on *Nepenthes*, by Ulrich Guilloud, that is accompanied by several illustrations.—*Spraying Crops*, by C. M. Weed (New York Orange Judd Co.).—*De la conservation des Fruits*, L. Loiseau (81, Rue de Grenelle, Paris).—*Les Plantes des Montagnes* (G. Mayne, same address).

HOME CORRESPONDENCE.

THE WEATHER FOR JUNE: A CONTRAST.—The difference in the rainfall for June in the Thames Valley and other southern districts, and that of the northern portion of the county of Staffordshire, is certainly very remarkable, for whereas at Isleworth $6\frac{1}{2}$ inches of rain fell in a week, we here at Rolleston only registered 1.13 inch for the whole month. June was a very trying month for vegetation in general, as for the first three weeks the weather was cold and gloomy, and for fourteen consecutive days the winds blew from the east, changing to the westward on the morning of the 21st, and bringing 7° of frost, which caused havoc with Potatoes and Kidney Beans, cutting them down to the ground, as usual, the warm and low-lying gardens suffering the most. Geo. Woodgate, Rolleston Hall Gardens, Burton-on-Trent.

THE UNPRECEDENTED RAIN-STORM OF JUNE.—I now send you the full record of the rainfall for June, which I personally measured twice daily in a standard 8-inch gauge in my garden:—

June 8	...	0.60
" 9	...	0.00
" 10	...	1.65
" 11	...	0.24
" 12	...	0.00
" 13	...	1.80
" 14	...	1.40
" 15	...	0.86
" 16	...	0.76
" 17	...	0.31
" 18	...	0.90
" 19	...	0.82

Total fall in 12 days ... 8.24 ins.

We had no rain whatever on the first seven days of the month, or on the last eleven days, so that the entire fall of 8.24 inches took place in twelve days. I have used the same rain-gauge and measure for the past nine years, and am assured of the accuracy of the record. The heavy fall on June 10 was local in its incidence. A. Worsley, Isleworth.

ALYSSUM PYRENAICUM WITH VALERIANA LONGIFLORA are weeds, on the wall looking due north in the late M. Boissier's garden at Valleyres, Switzerland. Anyone wishing seeds of the *Alyssum* gratis may apply to the undersigned.—William Barbey Boissier, Valleyres, Vaud, Switzerland.

THE SPOTTING OF THE LEAVES OF CALANTHES.—Mr. Chapman's note on this subject in a recent issue of the *Gardeners' Chronicle*, in regard to the spotting of *Calanthe* leaves, had

great interest for me. I do not think this is to be attributed to fungus or disease, but chiefly to the plants being placed beneath other plants which come in for much syringing, the water from which runs down the foliage to the pseudo-bulbs, remaining there for a considerable length of time, penetrating the skin, but not the pseudo-bulbs, causing them and the leaves to look unsightly. Calanthes here at the present time are standing on a bench 3 feet high, covered with fine coal. We never syringe the foliage, but damp between the pots with chemical and farm-yard manure-water, in order to check the increase of red-spider. The foliage at the present time has not a spot upon it, and is in a healthy condition. This spot can be caused in the earliest stages of growth if water happens to get in, and I am confident that the spotting of the foliage and of the pseudo-bulbs is sure to present itself afterwards. Wm. Fulford, Castle Eden Gardens.

EXCENTRIC RINGS IN TIMBER.—The very vague "tension" hypothesis, last advanced to explain one of the plainest facts in tree-growth, is sadly spoiled by the fact, familiar to gardeners, that trees fixed firmly to walls and trellises, where

only 1½ in. from the side where the branches were suppressed. You will see also by looking at the innermost rings that when the limb was about as thick as a walking-stick, the pith ring was near the centre, but got left as the branches extended on one side. The section was cut off close to the soil, where there was no tension, the stump being rigid. Unfortunately, also, for the latest and much-elaborated "tension" theory, the broad rings are on the wrong side, and on the opposite side to those on "H. J. C.'s" example. No doubt the Hazel limb pushed straight up from the stool at first, as the Hazel almost invariably does, but leant over to the right side as branches were produced. It grew, when cut, at about an angle of 45°, and the broader rings are on the under side. J. Simpson.

—The subject of the formation of excentric rings, discussed by A. C. Forbes, has attracted my attention since 1865, when I spent some time on the site of a plantation that had been cut down near Festiniog, in Wales. Observing the rings, I thought the growth would be greatest on the sunny side, but found it depended much more on the nearness of other

hedge. The pith of the Oak is above and outside the heart, showing that heart is formed with reference to the outside of the tree. A Scotch Pine branch had grown horizontally, and was cut off out of the way of a telegraph wire on a friend's estate. As it showed great excentricity, I got a section of it. Perhaps *Pinus radiata* (insignis), from its rapid growth, shows excentricity of growth more than most trees. There the relation of excentricity to position is constant in my tree. Branches below the horizontal show the greatest; one at an angle of 45° did not show half the excentricity of horizontal ones. I have an interesting tracing of a large branch below the horizontal, cut off on April 17, 1874. The turpentine that exuded marked the paper. The same paper was traced April 15, 1889, and I can make another tracing now. Anyone looking up at *P. insignis* branches will notice that the greater growth on the lower side of the branches is clearly shown by the bark opening and showing red in the cracks. Henry Rogers. [The tracings show in succession the irregularly concentric rings. Ed.]

GERMINATION OF DAVIDIA.—I should like to add to the note on this subject which appeared



FIG. 11.—EXCENTRIC RINGS IN TIMBER.

They are never moved by wind, weight, or anything else, behave just the same as the Oaks before described by me. They push their branches out to the light and lay on wood on the same side, the descending sap-stream taking the nearest road to the root, and leaving its mark behind in the rings. If any of your readers would like to apply the theory about the "stretching and turning force on the cells of the dividing cambium layer," where all the hypothetical conditions described are absent, and adapt their "fancies" to facts, I can procure them ample opportunities on a large scale. Another difficulty in the "tension" theory is that the "excentricity" does not always correspond with the line of tension, and is not found only at the junction with the trunk, but extends along the limb to the source of origin. Herewith I send you a neat illustration of what I say, in the shape of a 5-inch section of Hazel—an unusual size. The bush grew at the margin of a wood, where the branches were suppressed by the trees on one side, but grew freely out to the open sunny side, which I have indicated by a mark on the bark, and where you can both see and feel the bulges caused by the broader rings. On this side the pith-ring is fully 3 ins. from the side, and

trees to the one observed. When two trees of about equal size are near each other, there are no large roots between them, consequently the rings are small on the side towards another tree. I sent specimens illustrating excentricity of growth to the Edinburgh Forestry Exhibition in 1887. Two sections were shown of a Pinaster trunk that had lain on the ground in the early years of its growth, but in course of time grew upright, and had most branches near the top on the opposite side to its greatest excentricity of rings. Of the two sections with the same orientation one has the greatest thickness of rings on the one side, the other on the opposite. A section of a branch that had been cut off from a Turkey Oak-tree puzzled me; the inner rings were largest on the lower side, the outer rings on the upper. On searching we found a piece that had been cut off. This showed that a branch had been cut off some years before the tree was felled, outside the "swell" where the branch joins the tree. The wound had partly healed over, and the sap was interrupted in its descent down the trunk of the tree, causing a greater deposit of wood on the upper side. I have sections of Ash and English Oak quite as excentric as those of the Fir. I believe they were fence trees, that grew out of the side of a

in the *Gardeners' Chronicle* for July 4, p. 12, that the material examined was obligingly supplied by Messrs. James Veitch & Sons, and that it is preserved at Kew. W. Botting Hemsley.

PEA AUTOCRAT.—Having grown this variety for some years past, I can fully endorse all that Mr. Markham wrote on p. 399, vol. xxxiii. It is of the type of the old Ne Plus Ultra, but has shorter haulm. It is an excellent cropper, and of good flavour when cooked. In this damp cold district, we have to make our last sowing at the end of May. With this sowing I also include Ne plus Ultra, for should the autumn keep open and mild longer than usual, we are enabled to gather from this latter variety later than from Autocrat. I have gathered Ne plus Ultra as late as Nov. 8, when living in the Midlands. E. Ward, Longford Hall, Manchester.

EREMURUS WAREI.—When I wrote on p. 381, vol. xxxiii, of *Gard. Chron.*, "it is doubtful if the true plant is now in cultivation," I intended the passage to read "in general cultivation." I was quite aware of the existence of some flowering examples, also that quite a number of plants of this species was originally

distributed. The Eremuri as a race are very tenacious of existence. E. Warei is one of the hardiest of the whole race, and worth some care to retain it as true as possible to the type. M. Max Leichtlin is very fortunate in possessing specimens of the true plant—i.e., the one with the bright citron-yellow flowers. These, indeed, are worth growing apart, as this species appears extremely variable naturally, or readily cross-fertilised. This is so much so that even to-day some of the examples bearing the above name may be of one of the shades referred to by Max Leichtlin, instead of the fine yellow colour of the original. *E. Jenkins.*

IMPORTED FRUIT.—A not very wise suggestion has been made by a correspondent of the Colonial Secretary, that import duties should be levied on American Apples, of which such large quantities are usually imported into this country during the winter months. We shall have to admit this season a very poor crop indeed of these important fruits; and with the certainty of great scarcity at home, quite enough of itself to prove to myriads of fruit-growers, dealers, and consumers a great calamity, it is coolly proposed to make that scarcity all the greater, and the cost of Apples to consumers almost prohibitive, by taxing the fruit the Americans so abundantly send us when they have good crops. This correspondent ignores the great additional value given to American Apples by the exceeding care taken in grading and packing the fruits, features we at home still so commonly ignore, and on which defects it is proposed to put a premium. Let us hope that political wisdom will suffice to save us from so great an act of folly. *A.*

POA ANNUA.—It has been stated several times in your columns recently that this species of grass is obtainable from seeds. As one who knows something of the grasses of commerce, I say this is incorrect. The plant is such a common one that no one takes the trouble to save it, not even the Germans. Some seed firms say they can offer it, probably because they are told so by the wholesale merchant from whom they obtain their supplies; but when one procures a sample it is found on examination to be either *Poa pratensis* (Kentucky Blue Grass), or *Poa compressa* (Canada Blue Grass). The latter perhaps comes nearest to it, nevertheless it is not *Poa annua*. It certainly looks nice in the spring, when full of young spears, but is one of the first soft-leaved grasses to lose its colour on a thin soil during hot dry weather, and under the influence of the mower it often becomes tufty instead of turfy. On a heavy unkind soil in a smoky neighbourhood there is no other grass that succeeds so well, but it can never become popular for lawns in the sweet country air. It seeds freely upon light gravelly soil, and seed can be easily collected. Sparrows are very fond of the seed, which is dropped about in their excrement, and in this manner the plant becomes a pest in gardens. *Donald McDonald*

EXHIBITION VEGETABLES.—The comparative lack of fruit and the entire absence of vegetables at the recent Holland House show was productive of much disappointment to many visitors who naturally expected to see at a great metropolitan show these most important of all garden products well represented. It is interesting to read that at York on the preceding day there was considerable competition with both fruit and vegetables, leading gardeners being specially named in connection therewith. It does seem a pity that with so big a show, visited by thousands of gardeners and possessors of gardens, they should find plants and flowers everywhere and but little else. Yet I must not forget there was one large tent devoted specially to those wondrously varied and marvellously capable things called horticultural sundries, things in which some persons took interest no doubt, but not many relatively, and generally these sundries did not fill the void left by the absence of fruit and vegetables. It is because of this void and of the disappointment caused that I venture to urge on gardeners and all others interested in vegetable culture that a big effort be made to produce a really great and attractive display of these indispensable productions at Chiswick on September 29 next. The three requirements of a first-class vegetable exhibition

are—plenty of material, fine quality, and artistic arrangement or setting up. Given these things, exhibitors need not fear competition in the shape of attraction with plants, flowers, or even fruit. Excepting Roses, flowers which seemed to enjoy the special favour of the visitors, nothing else at Holland Park got special encouragement in the shape of prizes. Could prizes another year be given to vegetables, then the following year to fruit, and back again to flowers, very taking features would result, and a London show might then display what was comprehensive garden produce. *A. D.*

PRIMULA SIKKIMENSIS.—I can endorse all that Mr. Elwes says about this Primrose being impatient of sunshine. The soil of my garden is not dry, but exposure to hot sun at flowering time has often caused this plant to wither so as entirely to spoil the flower, and even to kill the plant. Planted in peat soil out of the sunshine, this Primrose does extremely well here, and I grow it from seed by the hundred; but each plant seldom lasts more than three or four years. I find many Himalayan plants equally liable to be damaged by sunshine; I may mention *Primula capitata*, *Meconopsis Wallichii* and *nepalensis*, *Cyananthus lobatus*, and *Geranium Wallichianum*. The reason is, no doubt, that, as Mr. Elwes says, they live in their own home in an atmosphere nearly always saturated, so that there is little or no evaporation. My long experiences of trying to grow mountain plants has convinced me that this one factor, evaporation, causes more failures with them in English gardens than any other; and the wetter the soil the more mischief it does to the flowers and plants. *C. Wolley Dod, Edge Hall, Malpas.*

—The handsome Sikkim Cowslip has been referred to by several correspondents; but I think no writer has given a hint of the best way to deal with the plant in British gardens. The species is said in its native Himalayan mountain home to inhabit wet and boggy places at an altitude varying from 12,000 to 16,000 feet, covering vast areas with its drooping yellow fragrant flowers. This moisture-loving character is an item ever to be borne in mind by those who cultivate it, and so far as my experience goes the plant has a decided preference for a spot that is moisture-laden, but needs liberal drainage. The finest groups I have grown have been so situated that the strong roots could reach the water in the season of growth. The water supply is best if under control. The best general way of dealing with the plant where bog beds or large flowering groups are required is to treat it as a biennial, raising seedlings each year, and growing them quickly for a few weeks prior to planting them out. The value of these seedlings is in their greater vigour. Fresh seeds are desirable. *E. Jenkins.*

ROSE MILDEW AND "VELTHA."—Having experienced during the past season a complete immunity from mildew amongst pot and other Roses under glass, which is such a fortunate circumstance, especially as mildew and other diseases were generally very prevalent in this part, I am induced to inquire as to the cause of their absence. I have taken no special measures against the pest this year, but last year the plants were treated with "Veltha," the results of which, however, I am bound to confess did not come up to my expectations at the time. May the absence of mildew this year be ascribed to its use last season? I am inclined to think such is the case. That its effect on plants is of a lasting nature I have had positive proof in the case of some *Hydrangeas* which were potted in soil containing "Veltha" last year, the flowers of which have a bluish tint this season. *R. W. Dean, gr., Wainsford, Lynton, Hants.*

PLANT PORTRAITS.

APPLE TRANSPARENTE DE CRONCELLE. *Bulletins d'Arboriculture*, &c.—A large fruit, pale yellow. The trees are very hardy.

CHERRY BICENTENARY. *Revue Horticole*, June 18.—A late-fruited sport from "Royale." Distributed by M. Duval, of Lieusaint.

ROSES MDLLE JEANNE PHILIPPE AND ALISTER STELLA GRAY. *Rosen Zeitung*, June, 1903.

SOPHRO-CATTLEYA NYDIA. *Le Jardin*, June 20.

LAW NOTES.

IMPORTANT POINTS IN FRUIT EXPOSURE IN MARKETS.

At Brentford Police Court recently, Walter Vaux, wholesale orange merchant, of Liverpool and Kew Bridge Market, and elsewhere, was summoned by the Brentford Urban District Council for having unlawfully exposed for sale in Kew Bridge Market Oranges which were unfit for the food of man.

Mr. S. Woodbridge, clerk to the Brentford District Council, prosecuted; and the Defendant appeared by his local foreman.

Defendant's manager said the case was not exposed for sale.

The Chairman said that there was a wider point, and one that he thought should be taken as being of great importance to the wholesale fruit trade. The fruit was exposed; but was it for the food of man within the terms of the statute? The Defendant was a wholesale seller, and as such he did not sell for the consumption of man *per se* [directly. *ED.*]. He sold to the retailer, who sold for consumption by man. Moreover, the defendant did not know of his own knowledge that the buyer would use the Oranges for the food of man.

Defendant's manager said that a rebate was always made for bad Oranges.

After hearing further arguments by Mr. Woodbridge, the Chairman said that as the defendant had not taken the trouble to appear, or thought fit to avail himself by the opportunities open to him, it was not for the Bench to stand in his shoes. He has practically let judgment go against him by default, and he will have to pay a fine of £10 and costs.

THE APIARY.

The Week's Work.—Honey is now coming in very rapidly and of good colour, particularly in districts where Sainfoin is grown, and fresh sections should take the place of full ones that are removed. Some bee-keepers prefer taking out the sections singly, instead of using the bee-escape. When this is done an empty section should be put back as soon as the full one is taken out, because they will be found to fit better, particularly where zinc dividers are used, as they sometimes get bent in the operation; another good reason is that the bees will be kept under better control than if the sections are all taken out at one time. Young swarms have been doing very well, and they should be supered, for even in one week they will be found to have filled up ten frames; and they should be able to fill a crate of twenty-one sections in a week if properly placed on and well wrapped up. Care should be taken that the crate is wrapped up at the sides, front, and end to prevent the bees from working out, as this not only annoys the bees in being smoked back, but is a waste of valuable time. Do not leave honey about the apiary, but remove it as soon as the bees are clear of it, otherwise they will mark it and render it unfit for sale. In swarming, if the bees cannot be kept under control, and a great number of stocks are kept, put a little piece of queen excluder zinc over the entrance for a few days; the bees will then settle down, and the zinc may be removed. In taking off sections where no queen excluder is used in the hive, a good look-out should be kept that the queen is not taken out, or great loss will result. *Expert.*

TEA-PLANTING IN NATAL.—It appears from reliable statistics recently to hand that there are now in Natal some 4,000 acres under Tea-planting; and from this, in the last season, some 1,600,000 lb. weight were gathered. The area planted three years ago will be picked this year, when it is estimated that the crop will yield 2,000,000 lb. The demand for Natal Tea is gradually increasing, and there is room for an increased acreage provided the necessary labour is obtainable.

BICOLOR NECTARINE.

To Mr. Bennett, of Ashford Gardens, Cobham, we were indebted for the Nectarine represented in fig. 12. It was an Early Rivers for about two-thirds of its surface, the remaining portion being of a totally different character, ivory-white without any tinge of red in it. The appearance may be due to the dissociation of hybrid characters, or to a reversion by "atavism" to the original character.

SOCIETIES.

ROYAL HORTICULTURAL.

JULY 7.—The usual fortnightly meeting of the Committees took place on Tuesday at the Drill Hall, Buckingham Gate, Westminster. In comparison with the displays that have been made in the earlier part of the year, the show was much less extensive, so that the building was not more than half filled. It was obvious that the influence of the holiday season is already felt, and this was apparent also in the lessened number of visitors. At no time during the day was there any crush.

THE FLORAL COMMITTEE recommended Awards of Merit to *Campanula peregrina*, *Nephrolepis cordifolia crispata congesta*, and two varieties of border Carnations. The displays before this Committee included grand groups and collections of Carnations, *Codæums*, and the usual groups of hardy flowers.

Orchids were much fewer than usual, and the Orchid Committee made no award to a novelty, but only three medals in respect of groups.

The principal exhibit before the FRUIT AND VEGETABLE COMMITTEE was a collection of Queen Pines from Lord LLANGATTOCK. An Award of Merit was recommended to a seedling Melon named after President Loubet.

In the afternoon a large number of new Fellows was elected; and Miss Armitage read a paper on Irises. A further paper, contributed by Mr. Caparne, Guernsey, upon some intermediate Irises he has raised, was not read, but it will be published in the Society's Journal.

Floral Committee.

Present: H. B. May, Esq., in the Chair; and Messrs. Chas. T. Druery, Geo. Nicholson, John Green, J. F. McLeod, Jas. Hudson, Jno. Jennings, W. Howe, G. Reuthe, Chas. Dixon, H. J. Cutbush, Geo. Gordon, H. J. Jones, R. W. Wallace, C. E. Pearson, Chas. E. Shea, W. P. Thomson, E. H. Jenkins, and Amos Perry.

Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, London, showed a ground group of *Codæums* (Crotons), in which some of the specimens were elevated on stands over a groundwork of Ferns. The collection was extremely representative, there being 120 varieties included. Some of the best of these were Warrenii, Mortefontaineensis, Comte de Germiny, Elysian, superbus, Albert Truffaut, a broad-leaved variety, colour green and pale yellow, the young leaves being nearly all yellow; Newmanni, Princess Waldeck, exceedingly bright, many of the leaves being wholly of gold colour; undulatus, musaicus, &c. The specimens varied in height from 1 foot to 4 feet (Silver-gilt Flora Medal).

A very handsome group of Carnations and Cannas was shown by Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea. The group covered about 120 square feet, and was composed of plants exhibiting excellent cultivation. The Carnations, though they bore grand blooms, were just as remarkable for their healthy "grass." The varieties represented were those of the Souvenir de la Malmaison type, of which there are very few that were not included. In addition to these there were two baskets of plants of the variety William Robinson, a tree variety of rosy-crimson colour. A selection of the best Cannas, in bloom, was also good (Silver-gilt Flora Medal). Messrs. JAS. VEITCH & SONS also showed *Escallonia laugleyensis* (a hybrid from E. Philippiana and E. macrantha), *Cytisus schipkaensis*, *Stuartia pseudo-camellia*, and *Cytisus nigricans*. Messrs. JAS. VEITCH & SONS had a large number of Sweet Peas in pots, in fourteen varieties. The plants were trained in globular fashion around two wire rings 15 inches across; the centre was thus kept quite free. The method is one that is very suitable to the health of the plants, and is neat in appearance. Also a group of plants of *Campanula peregrina* in pots. This species is noticed elsewhere (Silver Flora Medal).

Messrs. W. CUTBUSH & SON, Highgate Nurseries, London, N., exhibited a fine lot of cut flowers of varieties of border and Souvenir de la Malmaison Carnations. The varieties of Souvenir de la Malmaison included all the new choice varieties, and there were extra good flowers of Monk, a bright-red late flowering variety; Cecilia was capital, and amongst a large number of seedling border varieties were two named Shiela and Lady Wolverton, that were given awards at the Holland House show. Two others were given awards on Tuesday.

Mr. JAS. DOUGLAS, Edenside Nurseries, Great Bookham, exhibited cut flowers of new varieties of Carnations. Thora is a nearly white, Souvenir de la Malmaison, Albion, pink; Mercia, deep reddish-pink; Lady Grimston, splashed pink and white; Calypso, white or blush-pink. Amongst border varieties, The Dawn has bright red flowers, passing to rose colour; Abbot is a yellow-ground edged with purple; and Lord Napier a yellow-ground very slightly edged with rose; Horsa has a yellow-ground with unusually deep crimson edging and markings, &c.

Messrs. JNO. PEED & SON, West Norwood, London, S.E., exhibited a group of Carnations in pots, the varieties being chiefly of the Souvenir de la Malmaison type (Silver Banksian Medal).

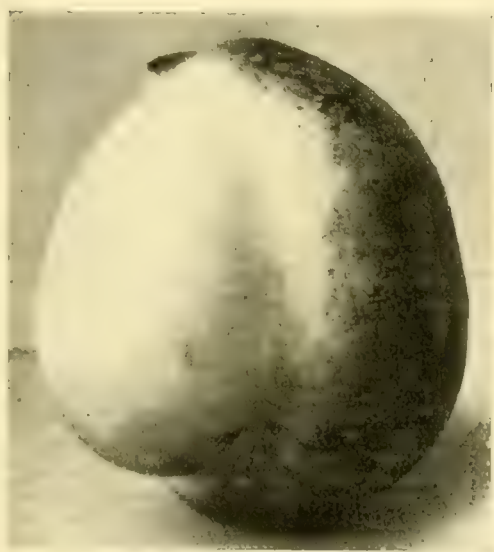


FIG. 12.—A BICOLOR NECTARINE.

Messrs. J. CHEAL & SONS, Lowfield Nurseries, near Crawley, Sussex, exhibited about sixty bunches of Sweet Peas, in which all the leading varieties could be seen.

Notwithstanding the Rose shows that have been held, Messrs. B. R. CANT & SONS, of The Old Nurseries, Colchester, exhibited a number of new varieties of Roses in bunches, including the popular Blush Rambler.

Messrs. THOS. S. WARE, Ltd., Feltham, Middlesex, exhibited a large collection of hardy flowers, including apparently most of the species now in bloom. The same firm occupied an equal amount of space with a group of Delphinium flowers of numerous varieties. Amongst these were some excellent forms of rich purple and blue-flowered varieties. Miss Gladys Batchelor is very large and double, the outer segments being blue, and the inner ones purple, with a white or cream coloured centre; Elsie Reid is a very pale blue variety; Nora Hollis, cream-coloured, with a green spot on the end of each segment; Lorna Doone is one in which mauve colour predominates. *Sarracenia flava* and *Drummondii*, several species of Lilies, and a fine panful of the pretty little *Crassula Cooperi* alba, were included in the exhibit (Silver Banksian Medal).

Mr. M. PRITCHARD, of Christchurch Nurseries, Hants, exhibited an excellent group of valuable and choice hardy flowers, all of which were represented by well-cultivated examples. Very showy were the large bunches of *Monarda didyma*, *Astragalus aurantiaca*, &c. Mr. PRITCHARD also showed flowers of varieties of Iris Kempteri, and of a variety of *Spiraea aruncus* named Koefli, having curiously lacinated foliage; and *Cimicifuga americana* in flower (Silver Banksian Medal).

Inula glandulosa fimbriata, shown by Lord ALDENHAM, Aldenham House, Elstree (gr., Mr. E. Beckett), had flowers in which the segments were forked, the appearance being quite distinct from the ordinary type.

Mr. E. POTTEN, Camden Nurseries, Cranbrook, Kent, had a collection of hardy flowers; also Rose Schneewittchen, with an abundance of semi-double white flowers upon plants less than 1 foot high.

Messrs. BARR & SONS, King Street, Covent Garden, London, W.C., showed a quantity of blooms of *Gladiolus Colvillei* varieties, also varieties of Iris Kempteri, of which Nitta and Her Majesty were very pretty. We noticed *Lilium Humboldti magnificum*, the small but striking L. Grayi, colour crimson with intense spots, &c.

Mr. AMOS PERRY, the Hardy Plant Farm, Winchmore Hill, had a bright exhibit, in which the rich golden yellow coloured flowers of Iris juncea, and the reddish-pink Phlox ovata caroliniana were conspicuously showy. *Enothera fruticosa major*, one of the best and freest flowering species; *E. Youngi flore plena*, *Campanula latifolia*, *Ostrowskia magnifica*, and Corsair, a very deep blue flowered Delphinium, were noticed. Flowers of hardy Nymphs in trays of water made an attractive edging to this gay group (Silver Banksian Medal).

Some very beautiful Shirley Poppies were shown by the Rev. W. WILKS, M.A., Vicar of Shirley, to whose care horticulturists are indebted for the charming strain he first distributed and has subsequently improved by continuous selection. The flowers were intended to show the gradual increase of yellow, pink, and other variations of colour and shade the strain has acquired.

Messrs. WALLACE & CO., Kilnfield Gardens, Colchester, exhibited an unusually large collection of hardy flowers. There were many charming varieties of the Japanese Iris (*I. Kempteri*); *Enothera Fraseri* had abundant yellow flowers, and the same colour was afforded by vigorous flowers of Iris Monnierii. *Lilium pardalinum californicum*, L. Henryi, *Eremurus Bungei* (yellow), *Eryngium alpinum*, *Calochortus*, *Thalictrum flavescens glaucum* (a very strong-growing species with yellow flowers), *Heuchera micrantha rosea*, &c., were all shown well (Silver-gilt Flora Medal).

Verbena hybrida "Miss Willmott" has become known very commonly in a short space of time for its distinctive colour and good habit as a pot plant, as well as for planting in beds. On Tuesday, Miss WILLMOTT, of Warley Place, Essex, exhibited another variety named Warley, which is rich rosy-red in colour, and has apparently the same habit as the other variety (Silver Banksian Medal).

Mr. R. ANKER, agent for Franz de Laet, Contich, again exhibited a collection of small Cactuses.

Several specialities and implements for the garden were shown, including tubs for Oranges, Camellias, and similar plants, by Messrs. CHAMPION & CO., City Road, London, E.C.; Pattison's lawn boot for horses; a convenient wire-holder for labels, known as the "Sanlac" holder; Beetlecure, a powder for destroying cockroaches and other insect pests; and Junofloria, a liquid for assisting the preservation of cut flowers in a fresh condition.

Plumeria bicolor is a very old Apocynaceous plant from tropical America. It is a stove shrub, with green oblong lanceolate leaves, and has white flowers with a yellow throat. A plant about 2 feet high carrying flowers was shown by Sir WHEATMAN PEARSON, Paddockhurst (gr., Mr. A. B. Wadds).

Awards.

Border Carnation, Merlin.—A large, rich yellow-ground flower, with reddish-crimson edging. The flowers have excellent petals, and a non-splitting calyx. Shown by Messrs. W. CUTBUSH & SON (Award of Merit).

Border Carnation, Didem.—A yellow ground flower having a rose edging pale in colour but extending deep into the petals. The form is very good, and the calyx sufficiently large as to allow of the petals opening freely. Shown by Messrs. W. CUTBUSH & SON (Award of Merit).

Campanula peregrina. This is an old species, having been introduced from Mount Lebanon more than a century ago. The flowers are sessile and in colour violet or pale purple; they are 1½ in. across, and funnel shaped. The rough leaves are obovate and ovate, and about 5 inches long. The habit is good, as the plants produce branches from the base and form well-furnished specimens. Shown by Messrs. JAS. VEITCH & SONS, Ltd. (Award of Merit).

Nephrolepis cordifolia crispata congesta.—This is an exceedingly dwarf and crispate form, not more than 5 inches high as shown. The fronds are densely congested, and the variety is an interesting novelty, there being so few dwarf forms in this genus. The variety was first shown at the meeting on June 9. From Mr. H. B. May, Edmonton (Award of Merit).

Orchid Committee.

Present: Henry Little, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), De B. Crawshaw, H. T. Pitt, W. Boxall, M. Gleeson, W. H. Young, E. Hill, H. A. Tracy, W. H. White, and W. A. Bilney.

Compared with the recent great events at the Temple and Holland House, there was a great falling off in the number of Orchids exhibited, and no award was made by the Committee other than Medals for groups staged.

Sir FREDERICK WIGAN, Clare Lawn, East Sheen (gr., Mr. W. H. Young), showed a fine collection of cut flowers of *Sobralias*, and two forms of *Cypripedium Godefroyae leucocheilum*, the one with a white, and the other a pale yellow ground colour. The *Sobralias* included *S. Wiganiae*, one of the largest and finest flowered species, with white sepals and petals shaded with yellow and lavender colour; and very broad lip with chrome-yellow throat and light rose front lobe, on which the white veining makes an attractive tracery; *S. x Veitchii aurea*, with bright yellow flowers; *S. xantholeuca*, also yellow; and the rose-purple *S. macrantha* (Silver Banksian Medal).

Messrs. SANDER & SONS, St. Albans, secured a Silver-gilt Flora Medal for a very fine group, in which the numerous beautiful forms of *Lælio-Cattleya x Martinetti*, for some of which they secured awards at Holland House, were the leading feature. Of the many varieties shown, scarcely two were alike. The finest were of the yellow and bronze-petalled type, and the best of them *L.-C. x Martinetti splendida*, with rose-tinted, yellow sepals and petals, and rich claret-purple lip, lighter towards the margin, and which was slightly better than the one which secured a First-class Certificate at Holland House. Two fine specimens of this hybrid had a dozen flowers each. *L.-C. x Gladiator* (*L. tenebrosa x C. Mendeli*), a pretty hybrid first shown by Messrs. Charlesworth at York several years ago; the sepals and petals of which are cream-white beautifully marked with rose on the outer halves; lip cream-white with handsome ruby-purple front. Messrs. SANDER'S group also included the fine *Cattleya x preciosa inversa*, *C. Mossiae Reineckiana*, *C. M. azurea*, a white flower with delicate lavender hue; *Maxillaria Sanderiana*, *Acropera Loddigesii*, *Cymbidium tigrinum*, *Stanhopea oculata*, *Oncidium macranthum*, the singular *Angraecum pertusum*, *Miltonia vexillaria superba*, with fine crimson blotch on the labellum; and a number of showy hybrid *Lælio Cattleyas*, &c.

REGINALD YOUNG, Esq., Fringilla, Linnet Lane, Sefton Park, Liverpool (gr., Mr. Poyntz), showed a flower of his new *Cypripedium x Ultor* (*Lawrenceanum x Sanderianum*), and also a photograph of it; but the material was insufficient to meet the rules for Awards. The photograph represented a three-flowered inflorescence, and the flower is a very distinct and handsome hybrid of the *C. x Massianum* class. The upper sepal is ovate acuminate, pale whitish-green, with a chocolate central band, and five dotted lines of chocolate colour on each side. The arched drooping petals, 6 inches in length, show the undulated characters of *C. Sanderianum* in the portion, which is white slightly tinged with green, and bears dark purple warted spotting, which expands into the rose-tinted acuminate outer half, the apical third of which is unspotted. The lower sepals resemble the upper, but are much narrower, and the labellum and staminode are of a rose-tinted mahogany colour.

The Hon. WALTER ROTHSCHILD, Tring Park (gr., Mr. E. Hill), showed *Lælio-Cattleya x Mauve Queen*, Tring Park variety (*C. Warneri x L. crispata superba*), the handsome flower of which resembled some of the best forms of *L.-C. x callistoglossa*; but the parentage renders it summer flowering. Sepals and petals white delicately tinted with rose; throat of lip bright yellow, front crimson-purple.

Messrs. WILLIAM BULL & SONS, Chelsea, secured a Silver Banksian Medal for a neat collection of the rare, handsome leaved terrestrial Orchids commonly known as *Anætochilus*, and which included a fine specimen of the velvety green and bronze-leaved *Dossinia marmorata*; two of the emerald green, gold veined *Macodes petola*; the yellow variegated *Goodyera Rolissonii*, *Anætochilus intermedius*, *Hemaria discolor*, and a more acuminate leaved form of it named *lanceolata*.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq., Chairman; and Messrs. Jos. Cheal, W. Bates, S. Mortimer, A. Dean, T. Coomber, C. G. A. Nix, Jas. Smith, F. Q. Lane, Geo. Wythes, Jas. H. Veitch, A. H. Pearson, H. Balderson, and H. Eslings.

A collection of eighteen fruits of the Queen Pine-apple from Lord LLANGATTOCK'S garden, The Hendre, Monmouth (gr., Mr. T. Coomber), was awarded a Silver-gilt Knightian Medal. The fruits were splendid specimens of medium weight, and were a further testimonial to Mr. Coomber's skill in treating the Pine. The Hendre is one of the very few establishments in which the cultivation of Pineapples is still practised. He also showed six beautiful fruits of Raymacker Peaches.

Messrs. GEO. BUNYARD & CO., Ltd., Maidstone, exhibited punnets of twelve varieties of Strawberries, including the following: Dr. Hogg, Trafalgar, Goliath, Leader, Monarch, Louis Gauthier (white), Waterloo, Sir Joseph Paxton, Trollope's Victoria, President, Royal Sovereign, and Walluff. In these days, when Royal Sovereign is cultivated in so many gardens to the exclusion of most or all other varieties, it is gratifying to see such a collection.

There were as many as five seedling Melons before the Committee for Certificates, but one only was successful in obtaining one. Three varieties were shown by the authorities of the Horticultural College at Swanley.

Messrs. HUGH LOW & CO., Bush Hill Park Nurseries, Enfield, exhibited a tree, in pot, of Fig White Marseilles, carrying a heavy crop of ripe fruits; also Vines in pots of the varieties Syrian and Lady Hastings.

Some excellent specimens of Western Express Pea, with ten and eleven Peas in a pod, were shown by Messrs. VEITCH & SON, 54, High Street, Exeter.

A dish of fruits of the pretty Apple Lady Sudeley were shown from the Horticultural College, Swanley, and were culturally commended.

Mr. GEO. FOWLER, 78, Bank Street, Maidstone, again exhibited his fruit-bottling apparatus, and specimens.

Awards.

Seedling Melon President Lobet.—This is a red-fleshed variety, of moderate size, exceedingly juicy, and possessing rich flavour. The exterior is deep yellow colour, with coarse netting. Shown by F. H. FAWKES Esq., Farnley Hall, Otley, Yorkshire (gr., Mr. J. Snell) (Award of Merit).

The Lecture.

HARDY IRISES.

Miss ARMITAGE, in the afternoon, prefaced a lecture upon hardy Irises by an appreciation of the beautiful forms, colours, and markings of the flowers in this genus. Proceeding to describe their cultivation in England from personal experience, she referred first to the natural habitats of the plants, explaining the local conditions. In respect to the bulbous Irises, it was pointed out that they were subjected to severe sun ripening at home, but frequently in England, as last year, the conditions are wholly different. As a consequence several of the bulbous species, including *I. Bakeriana* and *I. Danfordiae*, have failed to reappear this year in Miss ARMITAGE'S collection.

Bulbous Irises, said Miss ARMITAGE, should be planted on the south-eastern aspect of the rockery, on the highest level, in full sunshine, a position where heavy rains will not flood and snow will quickly melt away. When the flowers have passed and the bulbs are maturing their growth, let the leaves be tied together to keep them from injuring other plants, but do not cut them off until they are quite yellow. The soil they require is one of light sandy loam and leaf mould, and the bulbs should be planted from 4 inches to 6 inches deep. Miss ARMITAGE described most of the species in this group, including amongst others *I. Histrio*, *I. histrioides*, *I. Bakeriana*, *I. reticulata*, *I. Danfordiae*, &c.

The June Irises were next described, including such species as *I. caucasica*, *I. sindjarensis*, *I. persica* and its varieties, &c.

Water Irises, said Miss Armitage, do best by a pond which has an overflow. The plants would not succeed so well on the margins of water that is liable to rise and flood the plants in winter and recede in summer, leaving them standing high and dry in bright weather. If such Irises like their feet in water, said Miss Armitage, they also like to have their heads in sunshine, and excessive shade was therefore injurious. The "Water" Irises include such species as *I. sibirica* and all its varieties, *I. virginica*, *I. longipetala*, *I. longipetala superba*, *I. missouriensis*, *I. graminea*, *I. ochroleuca*, and *I. lævigata* (Kämpferi).

Miss Armitage then proceeded to speak of certain morphological characteristics she had noticed in the pollen of Irises, and in the fragrance. Some had white, others green or slaty-blue or yellow pollen.

The lecturer concluded with some phenological details in regard to the dates when the species come into flower; the principal point about which was the fact that Irises may be had in bloom during eight months of the year.

The lecture was superbly illustrated by a number of coloured drawings of the various species made by Miss ARMITAGE'S sister from plants growing in the garden.

Mr. CAPARNE'S lecture upon Irises, in which reference was made to the intermediate Irises he has raised in Guernsey, was not read, but will be published in the Society's journal. One of these intermediate Irises is illustrated in the Supplement to our present issue, and a full description of the new race was published in the *Gardeners' Chronicle* for November 30, 1901, p. 397.

CHISWICK, JULY 3.—A meeting of the Fruit and Vegetable Committee was held here on the above date. **Present:** Mr. H. Balderson in the chair; Messrs O. Thomas, J. Cheal, J. Jaques, G. Wythes, J. Smith, H. J. Wright, H. Eslings, G. Kelf, S. Mortimer, and A. Dean. The meeting was called to inspect the Pea trial, which is again this year a very extensive one, but owing to the great cold with the excessive beating rains in June, and the baking heat since, causing the ground to become unduly hardened, the trial does not promise to be so good as was that of last year. Only a few were sufficiently forward for testing, and of these some regarded as satisfactory croppers were cooked and tasted in that condition, as also in a raw state.

The following obtained Awards: Ideal (SUTTON & SONS), 3 feet in height, capital crop, pods well filled, and peas of great excellence, quite of the best character—First-class Certificate Little Marvel (SUTTON & SONS), 20 inches in height, pods small, well filled, and produced in great abundance; The Pilot (HURST & SON), a 6-foot variety, heavy cropper, fine pods, and very superior in quality; and Gleaner (JAS. VEITCH & SON), also a 6-foot Pea, very fine in pod and crop—these obtained Awards of Merit. Pods of a Sugar Pea were also cooked, but were not liked.

Mr. S. MORTIMER, Rowledge, Farnham, presented a Melon named Regina, green flesh, and of the most luscious and richly-flavoured character—Award of Merit.

The Committee framed a resolution inviting the Council to require from all persons sending in Peas for trial henceforth to specify in each case the height and season of maturity, that the varieties may be more effectively grouped for purposes of staging and comparison. The Committee wished that more labour could be furnished in the gardens, so that the hard beaten ground between the Pea-rows could be loosened, then well mulched with manure to help it to retain moisture.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

JUNE 26.—Members of committee present:—Messrs. Ashworth Duckworth, Cypher, Upjohn, Holmes, Parker, Cowan, Rogers, Keeling, and Williamson.

There was only a small number of entries.

AWARD OF MERIT.

Lælio-Cattleya x Martinetti var. *flavescens*, to Mr. J. Cypher.

Cattleya Warneri var. *gemma*, to Mr. J. Cypher.
Cattleya Mendeli var. *Mrs. H. Shaw*, to H. Shaw, Esq.
Oncidium lamelligerum, to T. M. Eccles, Esq.

MEDALS.

For group of Orchids, Silver Medal to W. Duckworth, Esq.

For group of Orchids, Bronze Medal to Mr. J. Cypher.
For group of Orchids, Bronze Medal to J. Leemann, Esq.

VOTES OF THANKS.

For group, to Mr. A. J. Keeling.

For group, to Mr. D. McLeod.

P. W.

DORCHESTER GARDENERS' AMATEUR AND MUTUAL IMPROVEMENT.

ON Thursday afternoon, June 25, this body of horticulturists substituted an excursion to Lord Ilchester's gardens at Abbotsbury for their usual evening meeting. Arriving at the gardens by road conveyance, the party was met by Mr. Benbow, his lordship's head gardener,

and conducted by him through the gardens. Abbotsbury is peculiarly rich in exotic flowering shrubs, Bamboos, Eucalyptus, Himalayan and Sikkim Rhododendrons, in Azaleas, Japanese, Australian, and New Zealand plants; and the visitors were highly delighted with all that they saw, and with the courteous manner in which they had been received.

HANLEY HORTICULTURAL FÊTE.

JULY 1, 2.—The seventh annual summer fête was held in the Park, Hanley, on the above dates, six large tents being provided, and filled with some of the best exhibits ever seen at Hanley. The very good Rose show came as a great surprise, as the incidence of the season had been against the production of good blooms, and there was the exhibition of the National Rose Society in the Temple Gardens on the same day. The opening ceremony was performed by the Countess Torby, who with her husband, the Grand Duke Michael of Russia, are living at Keele Hall. There was as usual a large attendance.

Groups arranged for effect.—The very liberal prizes offered for these by the Executive brought seven groups, all of the pattern with which Messrs. CYPHER have made us familiar; it was required that each should be arranged on a space of 300 square feet. Each followed the square shape. The group arranged by Messrs. CYPHER & SON, Queen's Nurseries, Cheltenham, seemed to be perfect; the artistic arrangement employed was excellent; rich in the extreme. The EXORS. of the late J. H. TURNER, of Derby, were 2nd; and Mr. J. READ, gr., Bretby Park, 3rd.

Plants.—Groups of Orchids arranged for effect with foliage plants, on a space of 100 feet, were a notable feature. The 1st prize was taken by Mr. J. ROBSON, nurseryman, Altrincham, who had Cattleyas, Cypripediums, Odontoglossums, Dendrobium formosum giganteum, Brassavola Digbyana, &c., charmingly arranged on a raised stage; Messrs. CYPHER & SON were 2nd.

With eight Orchids the Cheltenham firm came in 1st; they had in very good character Cypripedium Curtisii, Epidendrum vitellinum majus, Lelia tenebrosa, L. furfuracea, Cattleya gigas, &c.; Mr. J. ROBSON was 2nd.

The collection of twelve plants, six flowering and six foliage, made a fine feature, Messrs. CYPHER & SON being 1st, and Mr. W. VAUSE 2nd. With six plants in flower Messrs. CYPHER & SON were again 1st.

A class for a group of Malmaison and other Carnations brought an effective exhibit from Mr. J. ROBSON, mainly consisting of Princess of Wales, with a few of maroon, yellow, and scarlet shades; Mr. P. BLAIR, The Gardens, Trentham, was 2nd, showing large specimens. Fine foliaged plants were shown by Messrs. CYPHER & SON, W. VAUSE, and T. BOULTON. Caladiums were shown in collections of twelve plants, and also table plants.

Cut Flowers.—There were several collections of seventy-two varieties of Roses. Messrs. HARKNESS & Co., Hitchin, taking the 1st prize with fresh, bright flowers; Mr. GEO. MOUNT, nurseryman, Canterbury, was 2nd; and Messrs. G. & W. BURCH, Peterborough, 3rd. With forty-eight varieties, six collections being staged, THE KING'S ACRE NURSERY Co., Hereford, came 1st; Messrs. G. & W. BURCH were 2nd; and Mr. GEO. MOUNT, 3rd. With thirty-six varieties, three blooms of each, Messrs. HARKNESS & Co. were again 1st, and Messrs. G. & W. BURCH were 2nd.

With twelve blooms, distinct, Messrs. JARMAN & Co., Chard, took the 1st prize with well-developed examples of Bessie Brown, Mildred Grant, Frau Karl Druschki, Marquise Litta, &c. Messrs. TOWNSEND & SON, Worcester, were 2nd.

The best twelve blooms of one variety, there being eight competitors, were from the KING'S ACRE Co., who had Lady Mary Fitzwilliam in excellent character. Messrs. TOWNSEND & SON were 2nd, with Bessie Brown.

Garden Roses were shown in bunches; there was a class for eighteen, and also for nine. Messrs. TOWNSEND were 1st in both classes; the KING'S ACRE Co. were 2nd with eighteen bunches, and Messrs. HARKNESS & Co. with nine bunches.

Other cut flowers included very fine collections of hardy perennials, Messrs. HARKNESS & SON, Bedale, taking the 1st prize with superb bunches, including some of the choicest subjects in bloom at the present time. Lilies, Delphiniums, Hemerocallis, &c. Messrs. GIBSON & Co., Bedale, were 2nd.

Floral Decorations made a very fine feature; the best dinner-table arranged with flowers and foliage was set up by Mr. W. VAUSE, pink Sweet Peas and Carnations—simple but very pleasing. Mr. J. C. WATERHOUSE was 2nd.

The best stand of cut flowers came from Messrs. M. JENKINSON & SONS, Newcastle, Staffs.

The best arranged basket of flowers was a superb one from Messrs. PERKINS & SON, of Coventry.

The best bouquet came from Messrs. JENKINSON & SON.

There were three classes for Sweet Peas; in two of

them special prizes were offered for twelve bunches by Messrs. H. Eckford and R. Sydenham. Mr. W. SHROPSHIRE was the only exhibitor in each case.

Mr. W. MARPLE, Penkridge, was the winner of the 1st prize in the class for twelve bunches, provided by the Executive, though the only exhibitor.

FRUIT.

The best dessert-table, arranged with flowers and foliage, and to include no fewer than fourteen dishes of fruit, was most tastefully set up by Mr. JORDAN, the Gardens, Impney Hall, Droitwich; he had white and black Grapes of excellent quality, Peaches, Nectarines, Figs, &c., tastefully arranged with vases of Ixias and charming foliage. Mr. J. H. GOODACRE came in a close 2nd, following much the same arrangement; and Mr. J. READ, gr., Bretby, was 3rd.

Mr. JORDAN also had the best twelve dishes of fruit, decorated with flowers and foliage, staging Black Hamburg and Muscat of Alexandria Grapes, a Queen Pine apple, Royal George and Thomas Rivers Peaches, Lord Napier and Pineapple Nectarines, two Melons, Figs, Strawberries, &c.; plants of the pink-flowered Chironia ixifera, Eulalia, &c., were used with Orchids and other cut flowers. Mr. PHERSON, The Gardens, Londesborough Park, was 2nd; Mr. J. H. GOODACRE was 3rd.

With six dishes of fruit, Mr. T. BANNERMAN, The Gardens, Blethfield, Rugeley, was 1st; he had well-finished Black Hamburg Grapes, Royal George Peaches, Early Rivers Nectarines, Brown Turkey Figs, Melons, and Strawberries. Mr. J. READ, Bretby Gardens, was 2nd.

The 1st prize for four bunches of Grapes, black and white, was taken by Mr. NICHOLLS, The Gardens, Carlton Towers, York; and Mr. J. READ, 2nd.

With two bunches of Black Hamburg, Mr. J. C. WATERHOUSE was 1st; and with two bunches of any other black Mr. BANNERMAN came 1st with Madresfield Court.

Mr. BANNERMAN also came 1st with two bunches of White Muscats, and for any other white variety, having Foster's Seedling. There were Peaches, Melons, Cherries, Strawberries, and Tomatoes.

Vegetables were shown in several classes, and also in those in which Messrs. SUTTON & SONS, WEBB & SONS, and HEWITT & Co. offered special prizes.

MISCELLANEOUS EXHIBITS

were numerous, and Gold Medals were awarded to Messrs. Blackmore & Langdon, Twerton Nursery, Bath, for double and single Begonias; to Mr. W. B. Child, Acocks Green, Birmingham; and Messrs. Dicksons, Ltd., Chester, for collections of hardy flowers, &c.; and to Mr. John Forbes for Phloxes and Pentstemons in pots.

Silver Medals to Messrs. Harrison & Son, Leicester; Hewitt & Co., Solihull; and Jenkinson & Son, for collections of hardy flowers; to Mr. H. Eckford, Wem, for a collection of the newer forms of Sweet Peas; to Messrs. Jarman & Co., Chard, for plants; and to the Ranelagh Nursery Company, Leamington, for plants. Several lesser awards were also made.

GLOUCESTERSHIRE ROSE.

JULY 7.—Favoured with real summer weather, the Gloucestershire Rose Society held its fifteenth annual exhibition, open to the United Kingdom, on the Spa Cricket Field, Gloucester, on the above date. The season has been a decidedly backward one for Roses, but the last eight or ten days of warm weather, preceded by heavy rains have had a wonderful effect in developing the blooms. The collection of Roses displayed at the Gloucester meeting this year, both in point of quality and in the number of exhibits, compared very favourably with those shown at any previous exhibition of the Society.

The Nurserymen's classes were particularly well represented, and there were no less than four entries for the class for seventy-two varieties; the 1st prize, for which was awarded to Messrs. DICKSON & SONS, Newtownards, Co. Down; Messrs. FRANK CANT & Co., Colchester, being a good 2nd; and Messrs. D. PRIOR & SON, Colchester, 3rd.

In the class for thirty-six varieties, Messrs. JEFFERIES & SONS, Cirencester, took the premier prize; Messrs. TOWNSEND & SON, Worcester, the 2nd; and Mr. THOMAS RIGG, Caversham, Reading, 3rd.

Messrs. DICKSON were again 1st for twenty-four varieties; while in Teas or Noisettes, Mr. GEORGE PRINCE, of Oxford, secured the two 1st prizes.

In the Amateur division, Mr. CONWAY JONES, the veteran local Rose-grower, was 1st for twenty-four varieties, twelve varieties, and six single trusses, and for nine bunches of garden Roses; but had to take 2nd place to Mr. HILL GRAY, of Bath, in the two classes for Teas. The Silver Medal awarded by the Society for the best hybrid perpetual or hybrid Tea was also won by Mr. CONWAY JONES, with a magnificent bloom of Alice Lindsell. The Silver Medal for the best Tea was carried off by Mr. HILL GRAY, with a grand flower of Medea.

The classes for the county and city amateurs were also well filled. The silver cup presented by the Mayor and Corporation of Gloucester, for twelve varieties, was awarded to Mr. J. H. CROXFORD, of Tuffley; and the Silver Rose Bowl offered by the City High Sheriff was won by Mr. T. A. WASHBOURN, of Gloucester, late hon. secretary of the Society.

The Cottagers classes attracted a capital lot of entries, the Silver Medal being awarded to Mr. J. B. CLARKE, of Newnham, for a fine exhibit of twelve varieties.

There were nine entries for table decorations, which were most elegant. Two extra prizes were awarded, and the judges were so satisfied with the whole class that they gave each exhibitor a Certificate of Merit.

WOLVERHAMPTON FLORAL FÊTE.

TENTS BLOWN DOWN BY A HURRICANE.

JULY 7, 8, 9.—A most unfortunate disaster befell this annual fixture, as the high wind which prevailed on Monday, the 6th, levelled the whole of the tents to the ground, splintering the poles which formed the main supports; but happily no exhibits had been placed in them. The refreshment and other tents shared a like fate. One or two of the exhibition tents were materially injured, but were repaired during the night. It was not until Tuesday morning that attempts could be made to rear the tents, consequently the judging of the exhibits had to be postponed until quite late; indeed, some of the awards, and especially in the case of the groups, could not be made until 5 P.M. Everything which could be done by the committee to facilitate matters was entered upon with vigour. The company were admitted to the tents at the usual hour, though the work of staging the exhibits was in progress. The weather was gloriously fine, and there was as usual a large attendance.

PLANTS.

When our representative left the ground the group had yet to be judged, and they were in progress of completion, but it appeared that Messrs. CYPHER & SON, Cheltenham, would be again 1st with one of their elaborate arrangements. They were certainly 1st with sixteen stove and greenhouse plants, flowering and fine foliage, having superb Palms and Crotons, and the usual specimen flowering plants. They were also 1st with a collection of Orchids, having fine varieties tastefully set up; and Mr. J. ROBSON, Altrincham, was 2nd. Palms and Ferns were being staged in the form of fine specimens. Collections of twenty plants in pots, at least eight to be in flower, made pleasing groups. Messrs. CYPHER & SON were 1st; Mr. W. FINCH, Coventry, was 2nd; and Mr. Blakeway, gr. to Sir A. MUNTZ, Bt., M.P., 3rd. Collections of twelve plants were also shown.

Collections of flowering plants, to consist of one variety only, made an interesting feature. Mr. H. LOVATT, Bushbury, was placed 1st, with a group of dwarf grown but well-bloomed Cannas; Mr. J. ROBSON being 2nd.

Messrs. BLACKMORE & LANGDON had the best group of Begonias, staging single and double flowered varieties of fine quality.

Roses.—There was an excellent display of Roses; the entries were unusually numerous, but the storms of Monday prevented some from bringing their blooms. There were four collections of seventy-two varieties, Messrs. HARKNESS & Co., Hitchin, taking the 1st prize with some very fine blooms; Messrs. B. R. CANT & SONS, Colchester, with nice, fresh, though a little undersized blooms, 2nd; and Messrs. D. PRIOR & SON, Colchester, were 3rd.

With forty-eight varieties, Messrs. HARKNESS & Co. were again 1st; Mr. GEO. MOUNT, Canterbury, was a close 2nd; and Messrs. B. R. CANT & SONS, 3rd.

With eight varieties, three blooms of each, Mr. GEO. MOUNT was placed 1st with some superb blooms, chief among them Bessie Brown, Caroline Kuster, Mrs. J. Laing, Mildred Grant, Mrs. W. J. Grant, Ulrich Brunner, and Frau Karl Druschki. The KING'S ACRE NURSERY Co., Hereford, were 2nd; and Messrs. HARKNESS & SON, 3rd.

With twelve bunches of Roses, shown with foliage as cut from the plants, Mr. GEO. MOUNT was 1st, putting up beautiful blooms on long stems of Captain Hayward, Bessie Brown, Mrs. J. Laing, Ulrich Brunner, Killarney, Mrs. Sharran Crawford, &c.—an excellent innovation; but the blooms should be on strong stems in order to maintain an erect position. Messrs. GEO. PRINCE & Co., nurserymen, Oxford, were 2nd, setting up bold bunches of garden Roses, such as Crimson Rambler, &c.; and the KING'S ACRE Co., was 3rd.

With twenty-four varieties, single blooms, for exhibitors not showing in the class for seventy-two blooms, Mr. GEO. MOUNT was 1st; Messrs. TOWNSEND & SON, Worcester, were 2nd; and Messrs. PRIOR & SON, 3rd.

The best twelve new Roses of the previous three years were staged by Messrs. B. R. CANT & SONS, who had Lady M. Beauclerk, Muriel Grahame, Apothecary

Hofer, Alice Lindsell, Gladys Harkness, Frau Peter Lambert, Frau Karl Druschki, Madame Jean Dupuy, Edmond Deshay, Perle Van Godesberg, Prince of Bulgaria, &c. Messrs. A. DICKSON & SONS, Newtownards, Belfast, was 2nd; their leading blooms were Muriel Grant, Robert Scott, Lady Battersea, Louise Muller, Edith D'Ombraim, Aimée Cochet, &c. 3rd, Messrs. HARKNESS & SONS.

The best twelve blooms of one dark variety was a charming lot of Liberty from Mr. GEO. MOUNT; Messrs. D. PRIOR & SON were 2nd, and the KING'S ACRE CO. 3rd, with A. K. Williams.

The best twelve blooms of a light variety were those of Mildred Grant, from Messrs. GEO. PRINCE & CO.; Messrs. TOWNSEND & SON came 2nd with Bessie Brown, and the KING'S ACRE CO. 3rd with the same variety.

The best twelve Tea scented came from Messrs. GEO. PRINCE & CO., who had some very fine ones in Mrs. E. Mawley, Maréchal Niel, White Maman Cochet, Mrs. B. R. Cant, Innocenta Pirola, François Kruger, Muriel Grahame, &c. The KING'S ACRE NURSERY CO. were 2nd, and Messrs. J. TOWNSEND & SON, 3rd.

A delightful class was that for six vases of Sweet Briar Roses in six distinct varieties. The only exhibitors were Messrs. GEO. PRINCE & SON, who had charming bunches of Catherine Seyton, Green Mantle, Flora McIvor, Julia Murray, Amy Robsart, and Lord Penzance.

In the class for a bowl of Roses, arranged with Rose foliage only, and containing not fewer than thirty-six blooms, Messrs. J. TOWNSEND & SONS were 1st, having a tasteful arrangement of Teas, H.P.'s, and Crimson Rambler. Messrs. GEO. PRINCE & SON were 2nd, and Messrs. T. DOBBS & CO., 3rd.

A further pleasing class was for nine vases of Tea Roses, seven blooms in each. Messrs. GEO. PRINCE & SON were again 1st, chief among them being Edith Gifford, Souvenir d'un Ami, Medea, Maman Cochet, Souvenir de S. A. Prince, and Madame de Watteville; Messrs. D. PRIOR & SON were 2nd; and Mr. GEORGE MOUNT, 3rd.

FLORAL DECORATIONS

were represented by bouquets and various arrangements of a pleasing character; tables florally decorated were numerous, and some arranged with much skill. The arrangements in Sweet Peas were very good, Messrs. JONES & SON, Shrewsbury, taking the 1st prize. Good blooms were also shown in the classes in which Messrs. ECKFORD and SIDENHAM provided special prizes.

In the large group of classes following those open to all, many good exhibits of plants, flowers, &c., were arranged. The children made a huge display of arrangements in garden and wild flowers, but they had to arrange them under conditions of great difficulty.

FRUIT

was fairly well shown, the best four bunches of Grapes, one of each variety, was staged by Mr. S. BARKER, The Gardens, Clumber, Worksop, who had Black Hamburg, Foster's Seedling, Madresfield Court, and Buckland Sweetwater. Mr. J. BANNERMAN, The Gardens, Blithfield, Rugeley, was 2nd; he had Muscat of Alexandria in the place of Foster's; Mr. J. DOE, The Gardens, Rufford Abbey, 3rd.

Mr. BARKER had the best two bunches of White in Buckland Sweetwater; Mr. B. ASHTON was 2nd with the same. With two bunches of Black Mr. BARKER came 1st, with excellent Madresfield Court; Mr. DOE was 2nd with the same. There were many Melons, good Peaches, Nectarines, &c.

Mr. DOE was placed 1st with a collection of eight dishes of fruit. He had white and black Muscat Grapes, Dymond and Stirling Castle Peaches, Downton Nectarines, Figs, &c.; Mr. J. H. GOODACRE, The Gardens, Elvaston Castle, was 2nd. He had white Muscat and Black Hamburg Grapes, Royal George and Belle-garde Peaches, Lord Napier Nectarines, Lady Sudeley Apples, &c.

Some good vegetables were shown in the open, special prizes being offered by Messrs. Sutton & Sons, Webb & Sons, HEWITT & CO., &c.

MISCELLANEOUS EXHIBITS

were very numerous, hardy flowers in particular being staged by Messrs. G. H. White, Worcester; Dicksons, Ltd., Chester; Artindale & Son, Sheffield; Hewitt & Co., Solihull; R. Smith & Co., Worcester, &c. Jones & Son, Shrewsbury, had Sweet Peas; Messrs. Dobbie & Co., Rothsay, had zonal Pelargoniums and Sweet Peas, among the latter some new varieties, to one of which, Florence Molyneux, a First-class Certificate of Merit was awarded; E. Webb & Sons, Stourbridge, who had Gloxinias, hardy flowers, &c. (Large Gold Medal); Jackson & Son, Woking, who had hardy plants; Blackmore & Langdon, Bath, who had grand Begonias; W. L. Pattison, who had Violas, &c.; The Ranelagh Nursery Co., Leamington, who had their new Asparagus and other plants; W. Knight, Wolverhampton, plants, and others, particulars of which could not be gathered up. It was a day of great confusion, but the alacrity and resource shown by the committee to make good their disaster deserve the warmest praise.

MR. W. BROWNE.

THE retirement of Mr. Wm. Browne from the office of Superintendent of Hyde and other Royal Parks in London was made the occasion of presenting him with a handsome silver fruit dish, subscribed for by a number of foreign gardeners who had been employed at various times in the Royal Parks under his supervision. The presentation, at the residence of Mr. Browne in Ramsgate, was made by Herren Gensel and Pichelmayer on behalf of German and German-speaking gardeners. The list of subscribers contained the names of gardeners who are now filling important appointments in Asia, Africa, America, and in different countries of Europe.

Mr. Browne expressed his hearty thanks to the gentlemen above mentioned for the handsome gift, and remarked in the course of conversation that he had never been adverse to but rather in favour of the temporary employment of foreign gardeners in the parks under his superintendence, as he had found them willing workers, and as to skill and learning, quite equal if not superior to the native element.



WILLIAM BROWNE,
FORMERLY SUPERINTENDENT OF HYDE PARK, ETC.

There is prevalent, however, especially among German gardeners, a wish, which has been in their opinion too seldom realised—viz., that their young English colleagues might, for the sake of professional improvement, extend their travels to the Continent in general and to Germany in particular. The benefit accruing from such visits would exert a healthy influence upon the professional character and political feeling of the two countries.

It may not be generally known that Mr. Browne hails from Nottinghamshire, and acquired a general knowledge of the profession at home under his father, who was a nurseryman and seedsman. For further improvement he went to the Royal Gardens, Kew. Being fond of landscape gardening, and naturally inclined to it by his cleverness as a designer and draughtsman, he devoted himself entirely to this most interesting profession, and carried out extensive works under the late Mr. Nesfield and the late Mr. E. Milner. Though formerly employed in the Parks Department of the cities of Liverpool and Manchester, his public career may be said to have commenced when he entered the Government

Parks (so called Royal Parks) of London some thirty years ago.

Mr. Browne terminated his official career as head of the Royal Central Parks, consisting of Hyde Park, Kensington Gardens, St. James's, and Green Parks, and several minor places.

TRADE NOTICES.

NEW INVENTION: AN IMPERISHABLE HORTICULTURAL PAINT.—Mr. Chas. T. Drury, as manager of the Lubrose Paint Company, Moor-gate Station Chambers, E.C., calls our attention to a paint recently introduced into this country, which is admirably adapted for the protection of wood and iron-work in conservatories or green-houses. It is entirely distinct from oil-paints, having an imperishable rubber-like body as a basis, so that the paints form an elastic and strongly adherent skin, which cannot crack, blister, or flake off, and which stands both heat and damp indefinitely. As no priming is required, and two coats equal in covering capacity four of oil-paints, they are very economical in application, apart from greater permanence, while their appearance is equal to the best expensive enamel-paints. An enormous Continental consumption and an experience of five years demonstrate their value beyond a doubt.

MESSRS. DOBBIE & Co., seed growers and florists, of Rothsay, desire us to inform our readers that they have just purchased sixty acres of fine freehold land in the Essex seed-growing district. It lies alongside the main Great Eastern line, and is close to Marks Tey Station. They intend removing their seed-growing operations from Orpington to this new place next season.

Obituary.

WILLIAM THOMPSON.—We regret to hear of the death of a very old correspondent of the *Gard. Chron.*, generally known as "Thompson of Ipswich." According to a note in the *East Anglian Times*, Mr. Thompson had been ailing for some time, and died on July 3, in his eighty-first year. Mr. Thompson was in business for many years at Ipswich, but did not confine his attention solely to commercial affairs. He was one of the first to practise the Daguerreotype system of photography, now rendered obsolete by improved methods. Afterwards he turned his attention to gardening, collecting and distributing seeds of interesting plants, principally hardy plants. His first published catalogue dates from 1855. *Rhodanthe maculata*, a Swan River species, now largely used as a market plant, was introduced by him, as were also *Aquilegia chrysantha*, *Godetia Whitneyi*, *Leptosiphon roseus*, *Phacelia campanularia*, *Clematis coccinea*, and a host of other plants. A volume of the *Botanical Magazine* was dedicated to him by Sir Joseph Hooker, in recognition of Mr. Thompson's efforts in the introduction of interesting plants. Mr. Thompson was also one of the first recipients of the Victoria Medal of Honor, awarded by the Royal Horticultural Society to distinguished horticulturists. From a small plot of ground cultivated as the hobby of an amateur, Mr. Thompson's garden developed into a commercial establishment on a large scale, in the management of which Mr. Thompson was associated with Mr. Morgan.

"A NEW GERMAN GARDENING JOURNAL."

We have received various numbers of *Der Deutsche Gartenrath*, a new weekly Journal published in Berlin; under the Editorship of HERR ANDREAS VOSS. One of the early numbers contains a plea for the planting of the Walnut tree, especially in parks and public gardens, where it is now rarely seen; notes on the *Clematis* disease, and much information useful to amateur as well as to professional gardeners.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period June 28 to July 4, 1903. Height above sea-level 24 feet.

JUNE 28 TO JULY 4.		1903.		DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERA- TURE OF THE SOIL at 9A.M.				RAINFALL.	TEMPERATURE ON GRASS.			
					At 9A.M.		DAY.										
					Dry Bulb.	Wet Bulb.	Highest.	Lowest.			At 1-foot deep.	At 2-foot deep.		At 4-foot deep.			
SUN. 28	S.W.	74.7	66.5	84.7	53.9	...	65.8	59.5	54.6	52.1	...	65.8	59.5	54.6	52.1		
MON. 29	W.N.W.	64.7	57.0	72.5	54.5	...	66.3	60.8	55.0	48.4	...	66.3	60.8	55.0	48.4		
TUES. 30	W.N.W.	66.5	53.9	73.4	52.5	...	65.8	61.3	55.5	44.6	...	65.8	61.3	55.5	44.6		
WED. 1	W.S.W.	64.9	57.0	77.2	51.8	...	65.3	61.6	55.9	43.8	...	65.3	61.6	55.9	43.8		
THU. 2	S.E.	74.7	61.5	81.7	50.3	...	65.5	61.8	56.2	41.1	...	65.5	61.8	56.2	41.1		
FRI. 3	W.S.W.	65.4	53.0	69.5	58.8	...	66.3	62.0	56.6	52.1	...	66.3	62.0	56.6	52.1		
SAT. 4	W.	62.2	53.6	70.5	49.5	...	64.5	62.0	55.8	42.0	...	64.5	62.0	55.8	42.0		
MEANS	...	67.6	58.4	75.6	53.8	...	65.6	61.3	55.8	46.3	...	65.6	61.3	55.8	46.3		

Remarks.—A week of bright sunshine, with drying winds.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending July 4, is furnished from the Meteorological Office:—
“The weather during this week was fine and bright over the country as a whole, but rain was of almost daily occurrence in the extreme north and north-west. Thunderstorms were experienced at many western and northern stations on Thursday.”

“The temperature was above the mean very generally, the excess ranging from 1° to 2° in most localities, to 4° in England, E. The highest of the maxima, which were recorded on rather irregular dates, but in most cases on Sunday or Thursday, were as high as 86° in England, E., 84° in England, S., and 80° or 81° in several other English localities. In Scotland, N., and Ireland, N., the thermometer recorded no higher reading than 70°. The lowest of the minima occurred either about the middle or at the end of the week, and ranged between 41° in Scotland, N., and 42° in the Midland Counties, England, N.W., and Ireland, S., to 45° in the Channel Islands and Scotland, E., and to 49° in Ireland, N.”

“The rainfall was very heavy in Scotland, N. and W.—more than three times as great in the former district—and slightly exceeded the mean in Ireland, N. In all other districts excepting Scotland, E. (where the mean was just equalled) there was a deficit, and many stations in the south and east of England were quite rainless.”

“The bright sunshine was much in excess of the mean over England, but only slightly so in Ireland and in Scotland, W. In Scotland, N., there was less than half the average. The percentage of the possible duration ranged from 73 in England, S., 70 in England, E., and 68 in the Channel Islands, to 32 in Ireland, N., and to no more than 12 in Scotland, N.”

THE WEATHER IN WEST HERTS.

Very dry and sunny.—The recent warm spell lasted ten days, but since the 4th the weather has been quite cool, and on one night the exposed thermometer fell to within 9° of the freezing-point. The ground is now at about an average temperature at 2 feet deep, but about 2° colder than is seasonable at 1 foot deep. No rain has fallen for over a fortnight, and since the 27th ult. no measurable quantity of rain-water has come through the bare soil percolation gauge. The sun shone on an average for eight hours a day during the week, or for about two hours a day longer than is usual at this season. The winds continued light until the 2nd, but since then they have been at times high; and on one day the mean velocity for one hour rose to 17 miles, direction west. The atmosphere has been on the whole very dry.

A cold, sunless, and “dripping” June.—This was the coldest June of which I have here any record, that is to say for the last seventeen years. The coldest period of the month lasted a fortnight, during which the temperature remained constantly below the average. The night temperatures, although continuously low during that period, were never very exceptional, but the

highest readings on three days were lower than any previously registered here in the same month, all being below 51°. By way of contrast, it may be stated that on one day at the beginning of the month, and on two days towards its close, the highest temperature in the thermometer-screen rose to or exceeded 80°. No rain fell during the first week and last eleven days of the month, but during the intervening twelve days 5½ ins. were deposited, which is nearly 3½ ins. in excess of the June average, and more than in any June since 1860—or for forty-three years. Besides being very cold and wet, this was a very gloomy June, the record of clear sunshine falling short of the average by more than an hour a day. The winds continued exceptionally light; in fact, at no time did the mean velocity for any hour reach ten miles. There was a remarkable prevalence of north-easterly winds for a summer month—the direction for 436 hours, or eighteen days, being some point between north and east. Only once before in the last seventeen years has the atmosphere in June been as humid, and that was in 1894. E. M., Berkhamsted, July 7, 1903.

MARKETS.

COVENT GARDEN, July 9.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

CUT FLOWERS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Alstroemeria, doz.	...	...	Mignonette, doz.	2 0	3 0
— bunches	4 0	6 0	Malmaisons, per	...	...
Azaleas, doz. bun.	2 0	4 0	dozen	6 0	18 0
Callas, per dozen	3 0	4 0	Orchids: Cattleya,	...	...
Canterbury Bells	0 4	6 0	dozen blooms...	12 0	15 0
Carnations, per	...	...	— Dendrobiums,	...	...
bunch	0 6	1 6	per dozen	2 0	3 0
Coreopsis, dozen	...	...	— Odontogloss-	...	...
bunches	1 0	2 0	sums, dozen	2 0	4 0
Cornflowers, doz.	...	...	Pelargoniums,	...	...
bunches	1 0	2 0	zonal, dozen	...	...
Eucharis, ...	2 0	3 0	bunches	4 0	6 0
Ferns, Asparagus,	...	...	— White	3 0	6 0
per bunch	1 0	2 6	— Pink, Ivy, per	...	...
— French, per	...	...	doz. bunches	4 0	8 0
doz. bunches	0 4	0 6	Pinks, per dozen	...	...
— Maidenhair,	...	...	bunches	2 0	4 0
doz. bunches	0 4	0 6	Poppies, Iceland,	...	...
Gardenias, p. box	1 6	3 0	p. doz. bunches	0 6	1 0
Gladiolus, White,	...	...	Pyrethrums, doz.	...	...
per bunch	0 4	0 8	bunches	3 0	5 0
— Blushing	...	...	Roses, Mermet, doz.	1 6	2 0
Bride, bunch	3 0	6 0	— Moss, 12 bun.	2 0	3 0
— Brecheleyensis	...	...	— various, per	...	...
per bunch	1 0	1 6	bunch	1 0	4 0
— various, bunch	0 6	1 0	— red, 12 bnchs.	3 0	6 0
Gypsophila, bun.	0 3	0 4	— white, bunch	1 0	1 6
Iris, per bunch	0 6	1 0	— pink, bunch	0 4	1 6
Liliums, White	3 0	...	Smilax, doz. trails	1 6	2 6
— longiflorum,	...	...	Stenactis speciosa	...	...
per bunch	1 6	2 6	(pale mauve),	...	...
— lancifolium,	...	...	doz. bunches	2 0	3 0
per bunch	1 6	2 0	Stephanotis, doz.	1 6	2 0
— candidum, per	...	...	Stocks, per dozen	...	...
bunch	1 0	2 0	bunches	2 0	4 0
Lily of the Valley,	...	...	Sweet Peas, per	...	...
p. doz. bunches	4 0	12 0	dozen bunches	1 0	3 0
Lupins, doz. bun.	3 0	4 0	Tuberose, strong,	...	...
Marguerites, yellow,	...	...	per bunch	0 9	1 0
doz. bunch	1 6	2 0			

PLANTS IN POTS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Acers, each	...	...	Lilium longi-	...	...
Adiantums, doz.	4 0	8 0	florum, per doz.	8 0	12 0
Aralias, per doz.	4 0	8 0	— lancifolium,	...	...
Arbor Vitae, per	...	...	per dozen	18 0	24 0
dozen	9 0	18 0	Lycopodiums, p.	...	...
Aspidistras, per	...	...	dozen	3 0	4 0
dozen	18 0	36 0	Marguerites, doz.	3 0	12 0
Aucubas, per doz.	4 0	8 0	Mignonette, doz.	4 0	6 0
Calceolarias, per	...	...	Musk, per dozen	2 0	4 0
dozen	4 0	6 0	Orange-trees, each	3 0	7 6
Coleuses, per doz.	4 0	5 0	Palms, var., each	3 0	20 0
Crassulas, dozen	8 0	12 0	Pelargoniums,	...	...
Crotons, per doz.	12 0	24 0	— Oak-leaved,	...	...
Dracenas, variety,	...	...	scented, doz.	3 0	4 0
dozen	12 0	48 0	— pink, per doz.	4 0	6 0
Ericas, per dozen	8 0	18 0	— scarlet, dozen	3 0	6 0
Etoile d'Or, per	...	...	Petunias, p. doz.	4 0	6 0
dozen	12 0	18 0	— in boxes	1 0	1 6
Eucynymus, vars.,	...	...	Pteris tremula, dz.	4 0	8 0
per dozen	4 0	6 0	— Wimsett, doz.	4 0	8 0
Ferns in var., per	...	...	Pyrethrum coro-	...	...
dozen	4 0	30 0	nanium (Double	...	...
— Japanese balls,	...	...	yellow) Marguer-	...	...
each	1 6	...	ites	...	...
Ficus elastica, doz.	9 0	24 0	— Single yellow	...	...
Fuchsias, p. doz.	3 0	6 0	Rhodanthus, per	...	...
Heliotrope	4 0	6 0	dozen	4 0	5 0
Hydrangeas, doz.	8 0	24 0	Rose Trees, per	...	...
Ivy-leaved Pelar-	...	...	dozen	6 0	12 0
gonium, dozen	2 0	4 0	Verbenas, dozen	8 0	10 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe,	...	...	Mint, per dozen	...	...
per dozen	2 0	3 0	bunches	2 0	...
Asparagus, sprue,	...	...	Mushrooms, house,	...	...
per bundle	0 4	0 6	per lb.	1 0	1 3
— English, per	...	...	Onions, per bag...	5 0	5 6
bundle	1 0	2 0	— green, per	...	...
Beans, dwarf, lb.	0 8	0 10	dozen	2 6	3 0
— broad, bush...	1 6	2 0	— picklers, per	...	...
— Channel Is.	...	...	sieve	3 0	3 6
lands, per lb.	0 8	0 10	Parsley, per doz.	...	...
Beetroots, per	...	...	bunches	2 0	4 0
1 bushel	2 6	3 0	— sieve	1 6	2 0
Cabbages, tally...	2 6	4 0	Peas, per bag	2 6	4 0
Carrots, new, per	...	...	— per bushel	1 9	3 0
dozen	1 0	1 6	Potatoes, per ton	120	0-160 0
Cauliflowers, per	...	...	— Channel Isles,	...	...
dozen	1 6	3 0	per cwt.	6 0	7 0
Celery, per dozen	...	...	— Lincoln, &c.	7 0	8 0
bunches	12 0	15 0	Radishes, per	...	...
Cress, per dozen	...	...	dozen bunches	0 6	1 0
punnets	1 3	...	Salad, small, pun-	...	...
Cucumbers, per	...	...	nets, per doz.	1 3	...
dozen	1 6	3 0	Spinach, p. bush.	1 6	2 6
Endive, per doz.	1 0	1 6	Tomatoes, Channel	...	...
Garlic, per lb.	0 3	...	Islands, per lb.	0 3	0 3½
Horseradish, fore-	...	...	— English, new,	...	...
ign, p. bunch	1 6	1 9	per 12 lb.	3 0	4 0
Leeks, per dozen	...	...	Turnips, new, per	...	...
bunches	1 6	2 0	dozen bunches	2 0	4 0
Lettuces, Cabbage,	...	...	Vegetable — Mar-	...	...
per dozen	0 6	0 9	rows, per dozen	4 0	8 0
Lettuce, Cos, per	...	...	Watercress, per	...	...
score	0 6	1 6	dozen bunches.	0 4	0 6

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, Australia,	...	...	Gooseberries, per	...	...
including	...	...	sieve	4 6	5 0
Tasmanian, case	9 0	14 0	Lemons, per case	10	0-16 0
Apricots, p. sieve	14	0	— Lycches, packet	1	0
Bananas, bunch...	7 0	12 0	Melons, each	1	0-2 0
— loose, dozen	1 0	1 6	Nectarines, A., per	...	...
Cherries, sieve	6 0	15 0	dozen	12	0-18 0
Currants, Red,	...	...	— B., per doz.	2 0	4 0
per basket	3 0	...	Oranges, per case	10	0-18 0
— Black, sieve	7 0	9 0	Peaches, A., per	...	...
Figs, per dozen	1 0	3 0	dozen	15	0-21 0
Grapes, Alicante,	...	...	— B., per dozen	2 0	8 0
per lb.	1 0	1 6	Pines, each	2	0-4 0
— Gros Maroc, lb.	1 0	1 6	Plums, peck	3	0-5 0
— Hamburg, lb.	2 0	3 0	Raspberries, per	...	...
— A., per lb.	0 8	1 3	gallon	2	0
— Muscats, A., lb.	3 0	4 0	— per cwt.	30	0
— B., per lb.	1 0	1 6	Strawberries, A.,	...	...
	...	...	per doz. lb.	3	0-10 0

REMARKS.—Some Bombay Mangos are fetching 12s. to 18s. per dozen; Lisbon Apples sell at 14s. per case, and Italian Plums in baskets, 2s. to 2s. 6d. Only really good Peas fetch 3s. per bushel; a few out-of-doors Vegetable Marrows are now arriving, and sell at 4s. per dozen. New Zealand Spinach, sieve or half bushel, fetch 2s. 6d. Strawberries British Queen sell at 12s. to 18s. per dozen punnets.

POTATOES.

Cherbourg, 6s. to 7s. per cwt.; home-grown, 7s. to 9s. per cwt. John Bath, 32 & 34, Wellington Street, Covent Garden.

FRUITS AND VEGETABLES.

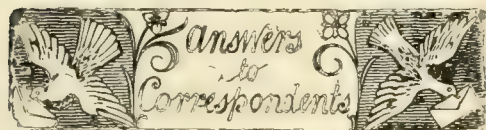
GLASGOW, July 8.—The following are the averages of the prices during the past week:—Apples, Australian and Tasmanian, 12s. to 16s. per box; Oranges, Valencia, ordinary, 420's, 22s. to 24s. per box; large 420's, 21s. to 27s. do.; extra large 420's, 25s. to 30s. do.; 714's, 27s. to 30s. do.; Lemons, 6s. to 10s. per box, and 7s. to 14s. per case; Grapes, English, 1s. to 2s. 6d. per lb.; Cherries, 6d. to 8d. per lb.; Strawberries, 6d. to 9d. do.; do., Cornish, 4s. to 8s. per dozen punnets; Dutch fruit: Strawberries, 1s. 7d. to 1s. 9d. per basket (about 2½ lb.); Gooseberries, 20s. per cwt.; Dutch Turnips, 5s. per bag, and 4s. to 4s. 6d. per small hamper; Carrots, 5s. to 7s. 6d. do.; Tomatoes, 6d. to 1s. per lb.; Onions, 6s. per bag and 6s. per case; Mushrooms, 1s. to 1s. 3d. per lb.

LIVERPOOL, July 8.—Wholesale Vegetable Market.—Potatoes, per cwt., Kidneys, 10s. 6d. to 12s. 6d. Jersey, 7s. to 8s.; Early Regents, 6s. to 7s. 6d.; St. Malo, 8s. 6d. to 9s.; New, 2s. 6d. to 3s. 9d. per 21 lb.; Turnips, 6d. to 8d. per 12 bunches; Carrots, 5d. to 10d. do.; Onions, foreign, 4s. 9d. to 5s. per cwt.; Parsley, 4d. to 6d. per twelve bunches; Lettuces, 6d. to 10d. per dozen; Cucumbers, 1s. 9d. to 3s. do.; Cauliflowers, 2s. to 3s. do.; Cabbages, 10d. to 1s. 3d. do.; Peas, 4s. 9d. to 7s. per hamper. St. John's.—Potatoes, new, 2d. per lb.; Asparagus, 2s. to 4s. per 100; Peas, 1s. to 1s. 6d. per peck; Cucumbers, 3d. to 6d. each; Apricots, 1s. to 1s. 6d. per dozen; Gooseberries, 3d. per lb.; Currants, Red, 6d. do.; do., Black, 8d. do.; Cherries, 8d. to 10d. do.; Strawberries, 6d. to 8d. do.; Grapes, English, 1s. 6d. to 3s. 6d. do.; Pines, foreign, 4s. 6d. to 6s. each; Mushrooms, 1s. 6d. per lb. Birkenhead.—Potatoes, 1s. 4d. to 1s. 8d. per peck; do., new, 1½d. to 3d. per lb.; Peas, 1s. 2d. to 1s. 4d. per peck; Cucumbers, 2d. to 4d. each; Strawberries, 4d. to 6d. per lb.; Currants, Red, 4d. to 6d. do.; do., Black, 8d. do.; Peaches, 4d. to 6d. each; Cherries, 6d. to 8d. per lb.; Apricots, 1s. to 1s. 6d. per dozen; Gooseberries, 3d. to 4d. per lb.; Grapes, English, 2s. to 3s. 6d. do.; Tomatoes, English, 6d. to 10d. do.; do., foreign, 8d. to 9d. do.; Mushrooms, French, 1s. to 1s. 4d. do.; Filberts, 8d. do.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending July 4, 1903, and for the corresponding period of 1902, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1902.		1903.		Difference.
	s.	d.	s.	d.	
Wheat	30	8	27	9	— 2 11
Barley	25	5	20	7	— 4 10
Oats	22	5	18	6	— 3 11



APPLE-TWIG: *H. R.* The injury has probably been caused by cold winds.

BLACK MUSCAT GRAPES: *G. H.* The fruit is affected with the "spot" disease. See answer to "*C. H.*" in our last issue.

BORDEAUX MIXTURE: *W. H. A.* The constituents of the Bordeaux Mixture should be—water 25 gallons, copper sulphate 5 to 6 lb., unslaked lime 5 lb. or more. Dissolve the copper sulphate and lime separately, then thoroughly mix the two liquids together.

CORRECTION. In my notes on Sweet Pea sports, which you did me the honour to publish last week, it reads, "It is Mendel's," when I meant to say, "Is it Mendel's?" *F. J. Coles.*

CUCUMBER: *W. J. W.* The Cucumber-blotch, due to a fungus (*Cercospora*), frequently alluded to and figured in the *Gardeners' Chronicle*. There is, so far as we are aware of, no known remedy except complete destruction. Melons and Cucumbers should not be grown for some years in pits that have held diseased plants, the disease being easily communicable.

CHRYSANTHEMUMS DYING: *S. F. M. (Journeyman).* The plants are quite free from any injury caused by fungi or insects. The roots are dead. Can it be due to the use of some fertiliser used?

GARDENERS' TRIPS TO LONDON IN ORDER TO INSPECT THE PUBLIC PARKS, BOTANIC GARDENS, AND GARDENS: *D. T.* The places most worthy of a gardener's attention are the Royal Botanic Gardens, Kew; Royal Botanic Gardens, Regent's Park; and the neighbouring Zoological Gardens, where bedding-out is well done; Royal Horticultural Society's Garden, Chiswick; the Crystal Palace, Sydenham, ten miles out; such parks as Hyde, St. James's, Battersea, Victoria, the Embankment Gardens, Charing Cross; Peckham and Greenwich Parks. Of nurseries that would repay a visit mention may be made of Messrs. Sander & Sons, St. Albans; Messrs. J. Veitch & Sons, Chelsea; Hugh Low & Co., Enfield; W. Cutbush & Son and H. Williams & Son, Fortis Green, Finchley; Fromow & Son, Chiswick; R. & G. Cuthbert, Southgate; Messrs. Laing & Sons, Forest Hill, S.E.; W. Bull & Sons, Chelsea; Messrs. Rivers & Sons, Sawbridgeworth, for fruit culture; Paul & Son, Cheshunt, for Roses and fruit; W. Paul & Son, Waltham Cross; H. Lane & Son, Berkhamstead, for Roses, fruits, Conifers, &c. The establishments of Jas. Rochford and T. Rochford at Broxbourne should not be forgotten, nor the gardens of Syon House, Brentford. Including rail and hotel expenses the outlay should not exceed £1 per day.

MELON FOLIAGE AND FRUIT OF NECTARINE: *F. Y.* The leaves of the Melon are affected with the Melon-blotch fungus, *Cercospora*, for the treatment of which see recent issues of the *Gardeners' Chronicle*; and the fruit has been affected with the Peach-mildew—for remedies also see recent issues of this journal.

MELONS DROPPING THEIR FRUITS: *A. J. P.* If you have no bed of fermenting materials under the bed, or if there is such bed, the warmth has materially declined. Perhaps you could apply

linings of hot stable-manure and tree-leaves, 1½ ft. to 2 ft. thick, round the bed, first cutting away the margin of the original bed close up to the frames. If this be done, you must be careful not to let the fumes of fermentation get into the frames; and to make sure that no harm is done a small amount of air should be afforded at night. The Melon will not succeed in this country without bottom-heat of 80°.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*J. S., Sleaford.* *Trifolium maritimum.*—*T. M.* *Coronilla varia.*—*E. A. T.* *Oncidium divaricatum.*—*Harry Williams.* *Gaultheria shallon.*—*W. Brown.* Certainly not a *Canna*, probably an Aroid.—*A. H.* 7, *Indigofera* species; 8, *Hemerocallis flava*; 9, *Sida malviflora*; 10, *Stenactis speciosa*; 11, *Festuca glauca*; 12, *Inula glandulosa.*—*E. G.* Specimens partly withered. 1, *Achillea* species; 2, *Campanula persicifolia*; 3, *Baptisia* species; 4, *Lupinus perennis alba*; 5, *Spiraea arifolia*; 6, *Eryngium alpinum*; 7, *Senecio doricum*; 8, *Potentilla*, garden variety; 9, *Aconitum*, probably japonicum, flowers fallen; 10, *Veronica teucrium*; 11, *Anthericum liliago*; 12, *Armeria cephalotes.*—*T. W. R.* 1, probably a form of *P. contorta*, but it is impossible to speak with certainty; 2, *Viburnum opulus*; 3, *Orchis maculata*; 4, *Lychnis dioica.*—*M. Buysman.* *Stachys recta.*—*T. C. K.* 1, *Claytonia perfoliata*; 2, if a tree, *Cercis siliquastrum*; 3, *Ranunculus flammula*; 4, *Spiraea filipendula.*—*William.* 1, *Thalictrum flavum*; 2, *Astrantia major*; 3, *Oxalis rosea*; 4, *Helenium autumnale*; 5, *Tropaeolum polyphyllum*; 6, *Digitalis lutea*; 7, *Epilobium angustifolium*, white var.; 8, *Echium vulgare*; 9, *Anthericum lineare variegatum.*—*Phyto.* 1, *Ægopodium Podagraria*; 2, a *Geum* probably; 3, *Veronica officinalis*; 4, cannot recognise; 5, *Gualtheria Shallon.*—*G. R., Wrexham.* 1, *Clematis flammula*; 2, *Astrantia major.*—*T. G. C.* 1, *Photinia serrulata*; 2, Perhaps *Exochorda grandiflora*; 3, *Rhus Cotinus*; 4, Perhaps *Sophora japonica*; we cannot tell from flowerless scraps, withered when we received them.—*G. H. S.* Your specimens will be named next week. We acknowledge the receipt of 2s. for the *Gardeners' Orphan Fund*, but we do not recollect to have received any former sum from you, or specimens.—*Soeze.* 1, *Pteris cretica*; 2, *P. cretica albo-lineata*; 3, *P. serrulata cristata*; 4, *Ophiopogon Jaburan variegatum*; 5, *Scolopendrium vulgare* var.; 6, *Pellaea falcata*; 7, *Lygodium scandens.*—*A. L. S.* *Dendrobium moschatum* and *Lilium Martagon.*—*E. A. T.* All varieties of *Oncidium prætextum.*—*Subscriber.* *Stanhopea oculata.*

PEACHES UNDER GLASS WITHOUT FLAVOUR: *G. V.* A lack of flavour and sweetness is found in most kinds of early fruits this year, owing doubtless to the remarkable absence of sunshine, the want of flavour, &c., varying in degree with the amount of sunshine enjoyed. In such years the gardener can do but little to counteract the want of sunshine, and the consequent small quantity of air admitted to the forcing-houses, beyond exposing the fruit to the light by pushing aside the leaves that shade it, maintaining dryish conditions in the air of the house, and employing fire-heat by day so as to admit of a larger amount of ventilation than could otherwise be afforded. Top-dressings of potash occasionally afforded, at the rate of 2 ozs. per square yard, favour fine colouring in Peaches and Nectarines.

POPPY: *F. C. A.* A case of doubling, not of hybridisation.

RATING OF MARKET GARDENS: *F. P.* At one time, *vide* case of *Purser v. Worthing Local Government Board*, reported in *Gardeners' Chronicle*, March 26, 1887, buildings in a market garden were rated, not as "buildings," but as "agricultural land." This view, however, was altered, *vide* *Piper's case*, see *Gardeners' Chronicle*, March 19, 1898, where the Master of the Rolls, Lord Justice Rigby agreeing with him, said, "The only conclusion at which I can arrive is that buildings are not to be treated as agricultural land for rating purposes under this Act of Parliament."

TOMATOS: *S. D. & Son.* On soaking the leaves for a few hours in water, we found the purple colour discharged.

TOMATOS NOT SETTING THEIR FLOWERS: *E. G.* Given ample space the flowers that show low down on the plant will set, but closely planted the Tomato seldom fruits at a less distance from the soil than 2½ feet. Ten-foot-high plants should fruit at a later date if not exhausted greatly by the crop of fruit lower down. Try artificial fertilisation of the blossoms.

VINES: *R. F.* The Grapes are affected with the "spot" fungus (*Gleosporeum ampelophagum*). Mr. Massee recommends that the shoots and leaves should be dredged with flowers-of-sulphur, repeating at intervals of ten days if the disease continues to spread. A small quantity of quicklime should be mixed with the sulphur on the second application, and the quantity of lime increased on each successive application until the proportions of lime and sulphur are nearly equal, always keeping just a little more sulphur than lime. Diseased leaves and shoots should be collected and burned, and diseased fruit should be removed as speedily as possible. See fig. in *Gardeners' Chronicle*, Dec. 6, 1899, p. 657, as *Gleosporeum laticolor*.

COMMUNICATIONS RECEIVED.—*H. H. Cromarty.*—Prof. Waugh.—*F. J. C.* (photos. with thanks).—*F. Roemer, Quedlinburg*—Prof. Beach.—*G. H.* photograph, many thanks, the plant has been figured more than once in the *Gardeners' Chronicle*.—*P. J. R.*—Ed. W.—Correspondent (red cardboard box without name).—*R. M.*—*W. H. A.*—*A. W.*—*F. W.*—*F. W. C.*—*J. H.*—*E. F.*—*A. C. D.*—*A. B. R.*—*J. T. S.*—*C. J. W.*—*E. Goddard*—*W. A. C.*—*J. J. W.*—*M. G.*—*S. H.*—*M. Francis*—*N. E. B.*

DIED.—After a brief illness, Mr. GEORGE BUCKLAND, who for a period of nearly forty years was gardener to the late Henry Courage, Esq., of Gravenhurst, Bolney, Sussex.

CATALOGUES RECEIVED.

GARDEN APPLIANCES.

THE PRIAULX PATENT TROUGH CO., LTD., Guernsey—Troughs for containing Cucumbers, Melons, Tomatoes, &c.
RANSOMES, SIMS, & JEFFERIES, Ltd., Orwell Works, Ipswich—Motor Lawn-Mowers.

FRUITS.

GEO. BUNYARD & Co., LTD., Maidstone—Strawberries, Vines, Figs, &c., also Bulbs.

FOREIGN.

M. GODEFROY-LEBEUF, 4, Impasse Girardon, Paris—New Plants.
ROVELLI FRÈRES, Pallanza (Lago Maggiore), Italy—Seeds of Conifers, Evergreen and Deciduous Trees and Shrubs, Palms, and various Ornamental Plants, Conifer Cones, &c.
OTTO HEYNECK, Magdeburg—Chrysanthemums, &c.
G. J. ALBERTS & Co., Boskoop, Holland—General Nursery Stock.

GARDENING APPOINTMENTS.

MR. F. W. RUSSELL, until recently Gardener at Avon Castle, Ringwood, as Gardener to Lady ESME GORDON, Paxton Park, St. Neots, Hunts.
MR. WM. MACGILLIVRAI, at present Foreman in the gardens at Balcarres, as Head Gardener to PETER WORDIE, Esq., Millersneuk, Lenzie, N.B.
MR. F. JACKSON, previously Foreman in the gardens, Willington Hall, Tarporley, has succeeded Mr. Podmore as Head Gardener to J. SPENCER PHILLIPS, Esq., of the Mount, Shrewsbury.
MR. R. SMITH, Foreman in the gardens at Gawthorpe Hall, Burnley, as Gardener to Mrs. BIRKBECK, Aulley Hall, Settle. [The money (1s. 6d.) sent has been placed in our collecting-box for the Royal Gardeners' Orphan Fund.]
MR. E. D. MENZIES, as Head Gardener to J. W. GARTON, Esq., Clarendon Park, Salisbury, in succession to Chas. Warden.
MR. J. DAVIS, for eight years Head Gardener at Brooklands, Bakewell, Derbyshire, as Steward and Head Gardener to Colonel E. R. STEWART RICHARDSON, Ballathie, Stanley, Perthshire, N.B., and entered on his duties June 1.
MR. A. E. BAMBRIDGE, previously Foreman in the gardens at Gattin Park, Reigate, as Gardener to Sir JOHN HOLLAMS, Bart., Dene Park, Tonbridge. [No charge is made for these announcements. The shilling sent has been put into the *Gardeners' Chronicle* Box of the Royal Gardeners' Orphan Fund.]
MR. W. CHOWN, formerly Gardener for seven years at Braxley Park, Essex, as Gardener and Steward to Mrs. EASTWOOD, Kingswood, Englefield Green, Egham, Surrey.



HYBRID IRIS, VAR. REINETTE, RAISED BY MR. CAPARNE: COLOUR, PALE BLUE.



THE

Gardeners' Chronicle

No. 864.—SATURDAY, JULY 18, 1903.

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WORN-OUT ORCHARDS.

THE question is sometimes asked why nursery trees may not be successfully raised continuously under good culture for a considerable number of years on the same land. It has long been known that a crop of nursery trees does not remove large amounts of plant-food from the soil, and investigations seem to prove that the roots of nursery stock do not in any sense poison or injure the land; so that some other explanation than soil exhaustion must be found to explain the reason for nursery trees failing to give good results when preceded by trees of the same kind.

Professor J. P. Roberts, of the Cornell University, N.Y., has for some years been carrying on a series of investigations in the hope that some light may be thrown upon the question of the depletion of the soil by fruit trees. The first thing done was to determine as far as possible the amount of plant-food which is taken from the land by old and young fruit-trees and their fruit. It was found that a healthy, normal-sized "Wagner" Apple tree, thirteen years old from planting, about 18 to 20 feet high, having a trunk $7\frac{1}{2}$ inches in diameter, produced a total growth of leaves which weighed nearly 33½ lb. These when fully dried yielded

52 per cent. of dry substance; and the dry substance when burnt gave $9\frac{1}{2}$ per cent. of ashes. On analysis the leaves showed—of nitrogen, 1.85 per cent.; phosphoric acid, 0.49 per cent.; and of potash, 1.76 per cent.

The following table gives total weight and chemical composition of the leaves of the single "Wagner" Apple-tree, and also the amount of plant-food contained in an acre of like manner, assuming that the trees were set 35 feet apart, which would give thirty-five trees to the acre:—

	Single tree.	Amount per acre.
	lb.	lb.
Total weight of leaves ...	33 18	1,161
" " " water in leaves.	15 92	557
" " " dry substance .	17 26	604
" " " nitrogen ...	0 29	10
" " " phosphoric acid	0 08	3
" " " potash ...	0 28	10

Assuming that the thirty-five trees would bear in five years from the time they were thirteen years of age 25 bushels of Apples per tree, or 5 bushels to the tree per year, they would take from the soil the following constituents by the growth of their leaves and fruit:—

	Apples.	Leaves.
Nitrogen ...	55 lb.	51 lb.
Phosphoric acid ...	4 "	14 "
Potash ...	81 "	49 "

Assuming that in the next five years the trees would bear 10 bushels per year, or 50 bushels per tree in all, and that the leaves had increased in the same ratio as the Apples, the following results are reached for the second five years:—

	Apples.	Leaves.
Nitrogen ...	110 lb.	102 lb.
Phosphoric acid ...	8 "	28 "
Potash ...	162 "	98 "

Further, assuming that the trees had reached full maturity at twenty-three years from setting, and that they produce on an average 15 bushels of Apples per tree for the next ten years, and that the leaves have increased correspondingly, the following results will be obtained for the third period of ten years:—

	Apples.	Leaves.
Nitrogen ...	332 lb.	304 lb.
Phosphoric acid ...	25 "	84 "
Potash ...	486 "	294 "

Or taking the whole bearing period of twenty years, from the time the tree was thirteen years old from setting until it was thirty-three years old, the following total amount of plant-food constituents, in leaves and in fruit, would be abstracted from the soil:—

	Apples.	Leaves.
Nitrogen ...	497 lb.	467 lb.
Phosphoric acid ...	37 "	126 "
Potash ...	729 "	441 "

While the above results are obtained by assuming a given quantity of Apples and leaves per year in a bearing orchard, and while the facts in any given case at any given time may vary widely, yet it is believed that they are valuable as furnishing a means of measuring in any given case, with some degree of accuracy, the amount of soil-exhaustion by Apple-growing.

It is seen from the data given that 5 bushels of Apples from each of thirty-five trees, equal 175 bushels, remove in round numbers 11 lb. of nitrogen, nearly 1 lb. of phosphoric acid, and 16 lb. of potash; and that the leaves from the trees large enough to produce those Apples would contain 10 lb.

of nitrogen, nearly 3 lb. of phosphoric acid, and 10 lb. of potash; or a total of leaves and fruit together of 21 lb. of nitrogen, 4 lb. of phosphoric acid, and 26 lb. of potash. It will thus be seen how easily the figures can be used to determine approximately the amount and kind of plant-food used by Apple-trees in any given case.

It is true that in a particular year a mature tree might produce as many Apples as the quantity assumed, and in another year fail to produce any, yet a computation could be made from the data given which would throw much light on the vexed question of orchard soil depletion.

The following investigations show the amount of plant-food demanded or used by old orchard trees. A tree nearly destitute of Apples, in a fairly thrifty condition, but below the normal size of trees of its age, was selected for examination, and gave the following results:—

Chemical Composition of Different Parts of an Apple-tree.

	Leaves.	Twigs.	Limbs and Trunk.	Roots.
	lb.	lb.	lb.	lb.
Total weight ...	232	172	3,973	841
Dry substance ...	93	84	2,316	416
Nitrogen ...	1 0	0 9	5	0 9
Phosphoric acid ...	0 4	0 3	2	0 4
Potash ...	1 3	0 7	5	0 9

One large root was found to be entirely decayed; hence it is probable that the percentage of roots as compared to trunk is less than the average.

It is estimated that the total weight of yearly wood (twigs) from an acre of Apple-trees would be 5,251 lb., and that the leaves from an acre of trees would weigh 8,121 lb.

The total amount of constituents, exclusive of that stored up in the structure of an acre of mature Apple-trees, would be—of nitrogen, 1,337 lb.; phosphoric acid, 310 lb.; and of potash, 1,895 lb. To restore the potash alone, as indicated by these figures, and that used by the growth of the trees, would require about 7 tons of kainit salt, containing 12 per cent. of potash; and to restore the nitrogen would require 12 tons per acre of a fertiliser containing 5 per cent. of nitrogen.

Very much of this plant-food could be furnished to the orchard soil by the growth of a leguminous crop (Clover, &c.) among the trees, and by feeding supplementary foods to farm animals which might be put to graze it, and some of the plant-foot would of course be returned to the soil by the fallen leaves which are not carried off by wind.

Professor Roberts says, "Many old orchards have not only been making these large demands on the soil for the last twenty years, but in many instances the land has been used for the production of hay or grain crops in addition, and frequently for the grazing of animals, with little or no supplementary food. The grazing of orchards, especially with growing animals without extra food, is as certain to deplete the land as the raising of grain or other farm crops, though the soil robbery is not so rapid.

These investigations, when considered in all their bearings, lead one to wonder, not why old orchards are failing, but why they have not ceased to produce marketable fruit long since.

NEW OR NOTEWORTHY PLANTS.

ALLIUM ALBOPHILOSUM, C. H. Wright,
*sp. nov.**

[See Supplementary Illustration.]

This *Allium* was first received in flower at Kew in June, 1902, from the Hon. Charles Ellis, and is now flowering in the herbaceous ground. Flowering specimens have just been received from Van Tubergen, of Haarlem, for whom the bulbs were collected in 1901 by Sintenis in "the mountain range that divides Transcaspiæ from Persia." The leaves are about 18 inches long, and vary from 1 inch to 2 inches in breadth; they are glabrous on the upper surface, but furnished on the lower and margins with many scattered white hairs, whence the specific name. The scape is about a foot high, and bears about eighty flowers in an umbel, 8 inches or more in

MARKET GARDENING.

MELON AND CUCUMBER LEAF-SPOT.

THIS new plague of the gardener, for which apparently no remedy can be found. The "spot" starts usually in damp or dull weather, and at the end of the house nearest to the door, and with sunshine it spreads very rapidly. I know of one experienced grower who is actively engaged in taking off the infected leaves as they appear, by so doing hoping to finish the present crop of Cucumbers, even if such only make "seconds" in the market. In this instance it is particularly disappointing, as he has had no Cucumbers on his place for some seven or eight years. The disease is very prevalent in Middlesex, Herts, Surrey, Sussex, and Kent, the skill of the growers availing nothing against it. In one instance one grower having a good winter crop without spot, repeated the planting; but these

If Cucumbers could be grown on the old lines, we should hear nothing of the "spot"; but the grower must needs take two crops in a limited period of time, and his methods account to my thinking the why and wherefore of the prevalence of the disease.

MARKET GRAPES.

"Raise the standard of quality, and prices will be higher." Such is the opinion of Mr. A. Lodge, Mill Hill, N.W., an excellent cultivator of the Black Hamburg; and he is able to support this statement by the fact of his obtaining 4s. per lb. for most of those he sent to market in the third week in June. The bunches are above medium size for market Grapes, four bunches just going into a cross-handled basket weighing 7 lb., the berries being of good size, and colour also good. His Vines were uniformly cropped, and he grows no other variety. *Stephen Castle.*

FLOWER-GARDEN AT CLAVERTON MANOR.

THIS residence, until recently, we believe, without a tenant for some time, possesses gardens which contain several delightful features; one of them, a Rose arcade, formed the subject of an illustration in the *Gardeners' Chronicle* for July 4. The fig. 14 in the present issue depicts a flower-garden having a terrace walk, and a turfed bank at one side, and flower-beds that stretch away from the foot of the bank on a level plateau. As befits a terrace-garden there are numerous flower-vases and a massive balustrade, and vegetation, which, when not naturally formal in shape, is made so by the gardener's art.

HYBRID SUGAR-CANES.

THE idea of raising hybrid Sugar-canes is by no means a new one in the West Indies; it was raised by Professor d'Albuquerque at the second Agricultural Conference in 1900 (*West Indian Bulletin*, vol. i., p. 182). Professor Harrison and Mr. Hart have both mentioned the possibility that some of the seedling canes which are being raised throughout the West Indies are the result of the accidental crossing of two varieties of Cane, and in the *Agricultural News* (vol. i., p. 146) we drew attention to some successful experiments that have been made in Java, by Drs. Wakker and Kobus, in hybridising various varieties of Cane, more particularly the Cheribon and an imported Indian Cane, the Chunnee.

The process adopted in Java was an extremely simple one. Dr. Wakker discovered that the pollen (the part of the flower containing the male elements) of certain varieties of Cane, notably the Cheribon, was infertile, while the ovary (the female part of the flower) was normal. Other varieties of Cane, including the Chunnee, were shown to possess normal, fertile pollen. It was only necessary, therefore, to plant canes of two varieties, one with normal pollen and one without, in alternate rows, the wind would then carry the normal pollen of the one variety to the ovary of the other, fertilisation would take place and seeds would be produced. These seeds, borne on the variety with infertile pollen, would necessarily be the result of a cross, and the Canes raised from them would be hybrids. In the case of the Cheribon and Chunnee Canes the experiment was a success: the Cheribon produced fertile seeds; and since then Dr. Kobus has succeeded in raising many thousands of hybrid Canes.

The first question to arise in the mind of a practical man would be: Is it worth while? Or, in other words: What advantages does this new method of obtaining fresh varieties possess over the method of raising seedling Canes which has been in operation for some years and which has



FIG. 14.—FLOWER GARDEN AT CLAVERTON, SOMERSETSHIRE.

diameter. The flowers (nearly 2 inches in diameter) are about the largest in the genus, and resemble a star with narrow rays; their colour is a deep lilac with a metallic sheen. A figure of this plant has been prepared for the *Botanical Magazine*.

[Our illustration (see Supplement) is taken from a specimen forwarded to us more than a year ago by Messrs. Van Tubergen, of Haarlem. The species is the most imposing-looking member of the genus. *Ed.*]

* *Allium albopilosum*, C. H. Wright.—A. Jesdiano, Boiss. et Buhse, proximum, foliis subtus pilosis, perianthii segmentis quam pedicelli dimidio brevioribus differt. Folia lanceolata, plus minusve acuminata, 18 poll. longa, supra glabra, superficie inferiore marginibusque pilis pluribus albis sparsis instructis. Scapus 1 ped. altus, 5 lin. diam., glaber, teres, circa 80-florus. Spathæ tres, late, acuminatæ, membranaceæ. Pedicelli 2 poll. longi, ½ lin. diam., tereti, glabri. Perianthii segmenta linearia, acuminata, obscure lilacina, 10 lin. longa, 1½ lin. lata. Stamina 5 lin. longa; filamenta atro-purpurea, subulata, basi dilatata; antheræ oblongæ, 1 lin. longæ; pollen cæcio-viride. Ovarium minute verrucosum, lobis 3-globosis (ovario Euphorbiæ simile); stylus subulatus, 3 lin. longus.

Hab., mountain range dividing Transcaspiæ from Persia: Sintenis legit. No. 308.

plants are all so gone off with the spot, that they are being cleared out and Tomatos planted.

I also now know of a very extensive firm of growers who have given up entirely for this year and are cultivating Tomatos instead, hoping next year to succeed with the Cucumbers. The effects of the disease are evident from the short supply of Cucumbers of the best quality.

Whether rich feeding has anything to do with the prevalence of the disease or not, one finds growers who make use of far richer composts than I ever touched; practically it is half-and-half—one layer of loam, one of rich stable or farmyard manure. This is put together some time before using, the result being a very rich mass of food given all at once to the roots, and heavy crops are obtained if the disease does not appear on the plants. Not content with an over-rich soil, a heavy mulch of decayed manure follows as the crop comes on, this again being correct to a certain degree, if plants are healthy. Lastly comes the question of how far the free use of the hose is desirable [seeing that it may scatter the spores broadcast]. Water in most cases, if not actually cold, certainly colder than water was used in my day, and the water afforded the roots has not had the chill taken off it.

been very successful? That the method of raising new varieties by hybridisation does possess advantages over the simpler process of raising them by selection is amply shown by the fact that it is practised by plant breeders all over the world. It must be remembered, too, that the Sugar-cane is probably the only cultivated plant with regard to which the raising of hybrids is such an easy matter as described above. With other plants, artificial crossing has to be resorted to, and this is a very delicate operation necessitating great care.

Mr. Lewton-Brain points out that crossing offers two advantages. In the first place the hybrid offspring of a cross is far more variable than pure-bred plants, so that the chances of obtaining a valuable seedling are proportionately increased. Again, it has often been found possible to combine in a hybrid the good qualities of both parents, as for example a large yield with excellent quality, or hardiness with good yield.

That this can be done is shown by the results obtained by plant breeders in other parts of the world. Messrs. Garton in England have obtained numerous hybrid varieties of Wheat, Oats, and other cereals which combine the good qualities of both parents. Mr. Farrer in New South Wales, again, has succeeded in raising hybrid varieties of Wheat which combine resistance to disease with high yield and other good characters. Hybrids between good wine-producing and disease-resisting varieties of the Grape-vine have also been obtained combining these qualities of the parents. It is, however, not necessary to go further afield than the experiments of Drs. Kobus and Wakker mentioned above. As a result of crossing the Cheribon and Chunnee, "Canes combining both high sugar content and disease-resisting power have been obtained."

In Mr. Lewton-Brain's paper the results of his observations on the pollen of West Indian varieties of Sugar-cane are given. Of the Canes examined, sixteen varieties were found to possess "a very small proportion of normal pollen," while eighteen showed "a large proportion of normal pollen." It is evident that hybrids might easily be raised between two varieties, one from each of these classes, on the lines followed by Drs. Wakker and Kobus.

It must be remembered, however, that success must not be looked for at the first trial; hybrids will probably be obtained, but most, if not all, of them will prove inferior to the parents. If one or two good hybrids are obtained after very numerous trials, the experiments will be as successful as could have been expected. *The Agricultural News*, May 9, 1903.

ORCHID NOTES AND CLEANINGS.

SANDERS' "ORCHID GUIDE."

MESSRS. SANDER & SONS have issued a Supplement to their useful *Orchid Guide*. It consists of a very full list of hybrids raised or recorded since the publication of the parent work in 1901. The tables give the names of the hybrids, and an indication of their parentage in a series of tables conveniently arranged for reference. We note that Messrs. Sander on their title-page say, "All rights reserved." In so saying they will not question our right to thank them, on behalf of Orchid-growers, for this very useful publication.

AERIDES ODORATUM.

Many years ago, grand specimens of this fine Orchid, having numerous flower-spikes, formed attractive objects at flower-shows and in Orchid-houses, which were invariably kept at stove-house temperature. It is a plant but seldom observed at the present day, East Indian Orchids having given place to the cool and intermediate house species. There are, nevertheless, few more attrac-

tive or more fragrant Orchids than *Aerides odoratum*, its white and rose-coloured wax-like flowers being more beautiful and more lasting than those of more recent introduction. An inflorescence from an imported plant is kindly sent by D. Campbell Brown, Esq., Bank of Scotland House, Oban, N.B., who states that it is growing well in a pot in peat, sphagnum, and charcoal, and suspended in a warm house.

COLAX JUGOSUS.

A very singular and handsome form of this pretty cool-house Orchid is in flower at Mr. E. Kromer's nursery, Bandon Hill, Croydon. The flowers are of fine form, the sepals of the usual whitish colour, with a green tint on the veining, but differing from the ordinary form in having a

THE KITCHEN-GARDEN, CROMARTY HOUSE.

OUR illustration (fig. 15) exhibits a phase of kitchen-garden arrangement much in vogue in the North of England and in Scotland, which is a combination of the æsthetic and the severely useful, borders for flowers for cutting, hardy herbaceous perennials, bulbs, and tender exotics in variety, shutting out the view of beds of Onions, Cabbages, &c. Once such borders displayed ribbons of colour, furnished by Verbenas, Calceolarias, zonal Pelargoniums, Lobelia erinus, Golden Feather, &c. Happily, these are no longer the fashion, and the mixed border has taken their place in most gardens in which flowers, vegetables, and fruit are grown in juxtaposition.



FIG. 15.—KITCHEN-GARDEN AT CROMARTY HOUSE, N.B.

brown-purple spotting on the base of the upper sepal and on the lower halves of the lateral sepals. The petals have the usual purple spotting, with the addition of a broad central band of densely-spotted brown-purple. The labellum is violet coloured, and the whole flower very attractive. Some good *Cattleya Warneri* and other Orchids are also in bloom.

CATTELEYA × FAERIE QUEENE (REX × MOSSIE).

This very pretty hybrid has flowered in the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood). The flowers are nearly as large as those of *Cattleya Mossiae*, but the colours are nearer to those of *C. Rex*. The sepals and petals are of a clear light yellow, and the labellum, which exhibits strong indications of *C. Rex* in the tubular form of the lower part of the lip and the prismatic arrangement of the colours in the throat, is of a rich rosy-crimson hue, with a lighter rose veining extending from the disc of the lip to the margin, which is of a lighter colour. The plant is of free growth, and does not exhibit the stunted characters which are often met with in *C. Rex*. J. O'B.

Mr. Henry Henderson, the head gardener to Col. Ross, C.B., Cromarty House, Ross-shire, N.B., who kindly furnished the photograph from which the illustration was prepared, supplied the following particulars of his method of treating the *Narcissus* :—

"The plants shown in the illustration in lines on either hand consist of *Narcissus poeticus*, which does exceedingly well in this garden, the soil of which is of medium consistency, being neither too light nor too heavy. When re-planting becomes necessary, the bulbs are lifted towards the end of the month of July, sometimes earlier and sometimes later, taking as a guide the leaves when they begin to turn yellow. Having given the ground a good digging, the bulbs are planted in a trench 8 inches deep out out with a spade. The bulbs stand when planted at 2 to 3 inches apart. This species of *Narcissus* often comes "blind," that is, scapes only are produced. It is my opinion that the cause of this is shallow planting. Trumpet Daffodils, too, do well here, including *N. incomparabilis* varieties, of which we have a few. Sir Watkin is deservedly a special favourite here; and Prince of

Wales is another fine cupped Daffodil that succeeds; also Cynosure and many others. The soil is not afforded animal manure, nothing further being applied than basic slag and superphosphate of lime at the rate of 4 oz. per square yard.

CULTURAL MEMORANDA.

PERGULARIA ODORATISSIMA.

It seems somewhat strange that one very seldom meets with this stove climber, or even comes across its name in plant catalogues, seeing that the plant is of easy culture, is a good grower, and produces its clusters of dull yellow, delightfully scented flowers freely under simple conditions. Given good drainage and a sound fibrous sandy loam in which to root, and the shoots trained thinly not far from the roof of a plant or Pine stove, the plant will make free growth and flower in due time. The wood is hairy, and somewhat long-jointed in growth, the leaves being about 4 inches in length, acutely ovate, and pale green in colour.

If cuttings of the young growths about 2 inches in length are taken off with a heel of old wood attached and inserted round the edge of 3-inch pots filled with light mould, surfaced with sand, and afforded water by means of a fine rose can, and then placed under a bell-glass or a small handlight, anywhere in heat, they will form roots within three weeks from the time of putting them in. They should then be potted singly into small pots and returned to heat, water being afforded to settle the soil about the roots. Afterwards maintain the soil in a uniformly moist condition, and shift into larger pots before the roots become matted, until they are potted into their flowering pots—pots from 8 to 10 inches in diameter. The plants should be syringed overhead morning and afternoon during the period of active growth, in order to keep them free from red-spider. *H. W. Ward.*

PLANTING AND PRICKING-OUT.

At this season, when so much is being done in planting and pricking-out seedlings, much patience is required and a deal of forethought, else in one night the work of several months may be rendered futile. Many plants would be all the better for a few more days' hardening, and plants of many kinds suffer from being put out during sharp winds.

When pricking-out seedlings, take care that the roots are as far as practicable taken up intact, or the greater the loss of roots the more difficult is it for the plants to make a start. Do not take out too many seedlings at a time, to lie about and get dry; and if by any means you are called away, place a little soil or damp moss over them till your return. As the work of pricking out proceeds, gently spray the plants, and do not expose them to the wind, keeping them close and shaded from sunshine till they recover, after which air and less shade should be gradually afforded.

In planting out, whether it be vegetables or flowering-plants, this should be carefully carried out. Transplanting should always be performed with a trowel, and the hole made large enough to easily accommodate the root mass and a little more. Nothing is worse than to cram the ball into a hole that is too small. When a plant is placed in the hole, press the soil firmly round about it, more or less according to the nature of the soil; and if the soil be dry water may be applied. Protection is the next thing usually required. If birds attack, I have found nothing better than black cotton stretched across at a few inches about the plants. If slugs and snails are troublesome, get some fine quicklime and soot, and sprinkle thickly around; lay about leaves of Cabbage as traps, which should be inspected twice daily; or apply a good dusting of native guano, which is a good preventative of loss by slugs in many instances. *W. A. Cook.*

BROWN ROT OF FRUIT

(*SCLEROTINIA FRUCTIGENA*, Schröter).

This is undoubtedly one of the most general and also the most destructive of diseases against which the fruit-grower has to contend. It attacks Apples, Pears, Plums, Cherries, Peaches, and is also not uncommon on various wild fruits belonging to the order Rosaceæ, as Bullace, Crab, &c.

To the ordinary observer this disease first attracts attention when it appears on the fruit under the form of brownish scattered patches on the skin. This is followed by the growth of dull grey tufts (the so-called *Monilia* fungus), which are usually arranged in irregular concentric rings. These grey tufts are composed of dense masses of spores arranged in long branched chains. The fairy-ring arrangement of the fungus is most evident on Apples and Pears; on Plums, Cherries, and stone fruit generally, the grey tufts are irregularly scattered over the surface.

Although most obvious on the fruit, the fungus usually first attacks the leaves, where it forms thin, velvety, olive-green patches. The spores from diseased leaves are washed by rain or carried by insects on to the surface of the young fruit, or not infrequently the flowers are also inoculated from spores derived from young leaves; and in many instances where brown and shrivelled blossoms are attributed to the action of a late frost, the true cause is in reality due to the *Monilia* fungus. In those instances where the disease has been allowed to follow its course undisturbed for some years, the young shoots of the trees are also attacked and killed during the first or second year. The fungus develops rapidly on such dead twigs, and furnishes a ready supply of spores, which are mature during April and May, just when the young leaves and blossom are most susceptible, and wholesale infection results.

Fruit attacked by this disease does not rot and decay, but becomes dry and mummified. Such fruit often remains hanging on the tree until the following season. Whether it does so or falls to the ground, it is practically unchanged until the following spring, when its entire surface becomes covered with a copious crop of spores, which are dispersed by various agencies, and the disease repeats itself. It has long been suspected that the *Monilia* represented but one stage in the life-cycle of the fungus; this supposition has proved to be correct, the second or ascigerous form of fruit having been found growing abundantly on old half-buried Peaches in several orchards in different parts of the United States, where the fungus proves quite as destructive as with us.

PREVENTIVE MEASURES.

All dead twigs and shrivelled fruit, whether hanging on the tree or lying on the ground, should be collected and burned during the winter. After the diseased fruit and dead branches have been removed, the trees and also the ground should be thoroughly drenched with a solution of sulphate of iron, prepared as follows:—

Sulphate of iron	...	...	...	25 pounds
Sulphuric acid	...	...	...	1 pint
Water	...	...	...	50 gallons

Pour the sulphuric acid upon the sulphate of iron, then add the 50 gallons of water by degrees. A barrel is the best vessel to use; a metal vessel must not be used, as it would be acted upon by the sulphuric acid. Spraying with the above solution should be done in January or February, before the leaf-buds begin to swell in the least, otherwise the foliage and blossom will be destroyed. When the leaf-buds are expanding, and at intervals as required, the trees should be sprayed with quite weak Bordeaux-mixture. The above line of treatment must be followed for at least two seasons. *Board of Agriculture.*

NOTES ON IRRIGATION IN THE WESTERN STATES OF AMERICA.*

NEARLY 6,000,000 square miles in the western United States are irrigated, where the climate is arid or sub-humid. In the first kind it is absolutely necessary, in the second there is an insufficient supply of rain to secure maximum crops. This is in five of the States, while the former covers eleven States and Territories. But the farmers of the eastern or humid side, as, e.g., of Wisconsin, are finding out the profit from artificial irrigation. "During the season of 1896, in which the rainfall was normal in this State, various crops were irrigated with profit." Thus it was on corn (presumably Maize), \$2.16 per acre; Potatoes, \$11.70; Cabbages, planted thin, \$2.43, and planted thick, \$29, &c. The great lesson to be learnt is that there must be an abundance of water in order that the crops may avail themselves of the plant-food stored in the soils; not that water is everything, but the fertility of the soil counts for naught without it.

The greatest profit is derived from irrigation where intensive farming is practised, in which the aim should be to economise all the elements of fertility, water, labour, &c., to the best possible advantage. Where fertilisers are used they should be kept in the upper layers of the soil, and if irrigation be practised also, it should be in moderation, lest the fertilisers be washed into the lower layers of the soil or be removed by drainage.

M. Ed. Gain has found from experiments that it would be very injurious to maintain a uniform state of moisture in the soil. The optimum of moisture in the soil at different stages of growth were about as follows:—"At the time of planting the soil should have about 25 per cent. of the total amount of water which it is capable of holding; then it should fall to 15 per cent., and remain at this point until the first leaves are formed, when it should be raised quickly to nearly 40 per cent. It should be allowed to fall rapidly to about 25 per cent., and remain at this point until shortly before flowering, when it may be raised gradually to 40 per cent., and then allowed to fall rapidly to 12 or 15 per cent., where it remains during fruiting and maturity." These are, of course, ideal conditions, to be aimed at as approximately as possible.

With regard to the methods of irrigation, sub-irrigation by drain-pipes has not proved satisfactory. It was found that a given amount of water was much more effective in increasing the yield of corn when applied by surface irrigation than when applied by sub-irrigation.

The following method in the cultivation of Celery, however, was found to be very effective:—"Common porous 2½-inch drain pipes were placed in a continuous row, end to end, on the surface of the soil, the vegetables being planted on either or both sides of the line. The pipes were 1 foot long, and by pouring in the water at one end of the line, it was distributed at the joints throughout the length desired, when the opposite end was stopped up. The Celery was planted, and while it was young, there is simple surface irrigation; but as the crop grows, it is banked up, and the tiles are covered, and thus sub-irrigation follows. When the Celery is harvested, the tiles are dug out. Potatoes and various other crops can be grown in the same manner. One is able to water twenty times as much space by pipes as by the ordinary method with ditches.

Where irrigating is to be done on a large scale, it seems to be the general opinion that surface irrigation by means of furrows is undoubtedly the most practical method.

With regard to the storage capacity of soils, when they are thoroughly loosened up, the amount of water which they will hold is greatly

* "Recent Progress in the Study of Irrigation," *Bull. of the Bot. Dep., Jamaica, Jan., 1901, vol. viii., pt. i., p. 2.*

increased, and the rise of water to the surface and evaporation are checked. It is only necessary to carry out subsoil ploughing when there is a hard and dry subsoil.

It is probable that the increased yields on subsoiled lands are mainly, if not entirely, due to the increased amount of water which such land is able to store up for the use of the crop.

In the April number of the same Journal there is a continuation of this subject under the heading, "The Conservation of Soil Moisture and Economy in the Use of Irrigation Water," by Messrs. E. W. Hilyard and R. H. Loughbridge.

The authors first refer to the fact that the amount of water required by crops is from 300 to over 500 tons on the average to produce one ton of dry vegetable matter. The successful growth and bearing, especially of deciduous trees, without irrigation, despite a drought of five or six months in Middle and South California, has led to the impression that a smaller amount of water may suffice under arid conditions; for in the Eastern States as many weeks of drought and intense heat would frequently suffice to destroy the crop.

The main cause, however, is the great depth to which the roots go in arid climates. Not only can they reach a permanent source of supply, but the roots are withdrawn from the injurious effects of the hot, dry surface and air. On the other hand, a typical Eastern tree-root will stand in absolute need of frequent rains or irrigation to sustain its vitality.

The practical result is that it is to the farmer's interest to favour to the utmost the deep penetration of the roots, both in the preparation and tillage of the ground and in the use of irrigation water; for if the latter be used too frequently or too abundantly, the salutary habit of deep rooting will be abandoned by the plant, and it will, as in the East, be dependent upon frequent rain or irrigation.

The evil results in California of practising what is done in the Eastern States—viz., the shallow ploughing—is the production of a "plough-sole," which prevents penetration, and limits the range of roots for moisture and plant-food.

Grape-vines which bear some of the choicest raisins of Malaga on the arid coastward slopes are made to supply themselves with moisture without irrigation, by opening around them large funnel-shaped pits, which remain open in winter, so as to catch the rain, causing it to penetrate downwards along the tap-root of the Vine, in clay shale quite similar to that of the Californian coast ranges, and like this latter, almost vertically on edge. Yet on these same slopes scarcely any natural vegetation now finds a foothold.

It is this deep penetration to the natural moisture which enables the small quantities supplied to produce marked effects.

This method of "basin" irrigation round the trees has been sometimes injurious to fruit-trees, in consequence of the chill to the earth round the roots. The water should be then "reservoired," so as to allow it to warm before being applied, so that furrow irrigation has been adopted in orchards; and it is for the fruit-grower to determine which consideration should prevail in a given case. But if the water supply be scanty and warm, the most effectual use that can be made of it is to apply it immediately around the trunk of the tree, in a circular trench dug for the purpose.

The authors then consider the power at the command of the farmer on an arid soil of utilising the subsoil as a storehouse of winter rains, as the run-off from the surface is mostly a dead loss. So that a thorough knowledge of the nature of the subsoil to a depth of 4 to even 6 or 8 feet is most desirable; and the time it takes to wet his soil to a certain depth.

The next important point is, that, supposing the moisture to have reached the depths of the soil, the proper means must be employed for retaining it in the land, and to avoid loss by evaporation. This is best accomplished by mulching, and the best mulch for the purpose, which need not be hauled on or off, and is always ready, is a surface layer of loose, well-tilled soil. As the results on two soils adjacent to one another, one cultivated and the other not, the amount of moisture was as follows:—Average for depth (1 to 6 ft.) in cultivated, 6.3 per cent.;

in uncultivated, 4.2 per cent. The average in tons per acre of water was, in the former, 756; in the latter, 572.

The cause of this difference in the number of tons was that in the uncultivated field there was a compacted surface layer several inches thick, which forcibly abstracted the moisture from the substrata and evaporated it from its surface: while the loose surface soil on the cultivated ground was unable to take any moisture from the denser subsoil. Besides, the tilled surface soil forms a non-conducting layer protecting the subsoil from the sun's heat and the dryness of the air. *George Henslow.*

ODONTOGLOSSUM CRISPUM

VAR. SIBYL.

OUR illustration (fig. 16) represents one of Mr. Norman Cookson's successes in the raising of *Odontoglossums*. A plant in flower was exhibited by him at the Royal Horticultural Society's recent exhibition at Holland House, and the flowers as seen on that occasion showed a close affinity with those of *O. crispum*, with indications of relationship with *O. Wilckeanum albens*. They have a white ground heavily blotched with claret-purple.



FIG. 16.—ODONTOGLOSSUM CRISPUM VAR. SIBYL.

(Photograph by Mr. Chapman.)

NOTICES OF BOOKS.

LES PLANTES DE MONTAGNE DANS LES JARDINS, par Georges Magne. (Paris: Rue de Grenelle, 81 bis.)

ON the outskirts of Paris the author has constructed an alpine garden stocked with representatives of the Swiss and other mountain floras. Year after year the author visits the mountains to feast his eyes not only on the sublimities of the Alps, but also on the brilliant vegetation which clothes their base. He is not content with feasting his eyes, but he brings his intelligence to the aid of his observation, and by

careful study of the conditions under which the plants grow naturally is enabled to induce them to flourish under the very different conditions of the Bois de Boulogne.

In the little volume before us he tells the reader the secret of his success. Beneath his well-drained rock-work is a streamlet, which furnishes the moisture and coolness which the plants require, while the drainage prevents stagnation. He draws a distinction between "alpine" plants proper, which occur at the higher elevations exclusively, and "alpestral" plants, which occur on the low grounds and ascends the slopes of the mountains to a height of 5,000 to 6,000 feet only. As to the construction and management of the rock-garden, the author follows the directions of Mr. Robinson, M. Correvon, and others. His own experiments are worth recording, especially those in which he tells us how he sowed seeds of alpine Primroses and other plants in the autumn on the surface of the soil, which at the beginning of winter was covered over with a coating of snow, the seeds being in direct contact with the snow. In a fortnight's time seedlings of various Primroses, Gentians, Columbines, and others, made their appearance. On the melting of the snow, a thin layer of soil and chopped sphagnum is spread over the seed-pans, which are then placed in a frame. As a general result of his experiments, M. Magne says that he has proved the snow to be "an incomparable factor" in the germination of alpine plants.

A method of growing alpine plants, which is very suitable for town gardens, balconies, and situations where space is valuable, is to procure a wooden tub with a false bottom pierced with holes, over which is placed the soil. The space beneath the false bottom is filled with rain-water. By means of a funnel or inverted bottle kept filled with water, the level of the water remains constant, provision being made by an overflow pipe against the accumulation of an undue quantity of water. Each tub may be devoted to the flora of a particular district or to illustration of a particular genus, so that, for botanical purposes, this method of cultivation is very suitable, as the tubs can readily be carried from place to place. It is needless to say that the unsightliness of the tubs can be easily masked.

The latter part of M. Magne's little treatise is devoted to a descriptive list of the principal plants which can be cultivated in the rock garden.

We have said enough to show that this little work may be read with much interest and profit by those interested in "alpine" plants.

BULLETIN DE LA SOCIÉTÉ FRANÇAISE D'HORTICULTURE DE LONDRES.

This annual publication of a prosperous and useful society is once more before us, and indicates in a striking manner what enthusiasm and ability can do. The President, Mr. Geo. Schneider, may well feel proud of the interest he has taken in those of his young fellow-countrymen who have come over to this country to learn English and perfect themselves in the profession they have chosen.

In size and form the Bulletin for the past year is the same as heretofore, and its contents are equally interesting. Among the illustrations there is an excellent frontispiece, a portrait of the late Charles Maries, accompanied by a short biographical sketch. Lists of the various officials, both in London and Paris, follow; then lists of the various grades of members composing the society, among whom we notice many who are famous in the horticultural world on both sides of the Channel. The names of the corresponding societies are given, and also details of the monthly meetings, at which papers are read by the members. Of these some are given *in extenso*, showing that the youthful authors are aspiring to still higher honours—a hope fully

justified when we look round and see the positions that many of these young men have occupied in the past, and will continue to do in the future.

The finances appear to be in a sound condition, the Library is growing, and the Report of the annual dinner proves that the Society's English supporters are in strong sympathy with its aims and aspirations. M.M. Madelin and M. Scalandris discourse upon the *Chrysanthemum*; M. Guillon upon *Nepenthes*; M. Henri Lemoine writes about the Botanic Garden at Tours; M. Leon Thoury upon propagation and culture of dwarf Roses at Orleans. Other authors include M.M. Schneider, Roth, Goddard, Charles, Aquatias, E. Thoury, Recordon, Boytard, Daumain, Nicolas, &c.

We notice a distinctly new departure in the Society's labours this year, and that is a visit on the 11th inst. to Mr. Peter Kay's establishment at Finchley, remarked upon on p. 47. It is to be hoped that such a visit is but the first of a series that will be made in the future. Much good feeling may thus be engendered between our Continental friends and English gardeners by acts of hospitality of this nature.

TREES AND SHRUBS.

The second part of Prof. Sargent's new work devoted to the illustration and description of new or little known ligneous plants has lately appeared. It is, as we have previously stated, of 4to size, with lithographic illustrations prepared mostly from material at the Arnold Arboretum, Boston, U.S.A. As many of the species are described from dried specimens, and some come from Mexico, Guatemala, and other warm climates, it must not be thought that they are in all cases likely to be hardy, either in the Northern United States or in Britain. Numerous new species of *Cratægus* are figured, the illustrations being the more valuable from the difficulty of otherwise determining the species. *Cratægus speciosa* is a handsome species which we may hope to see in cultivation. Its large flowers, brilliant crimson fruits, and shining ovate, oblong, serrulate leaves are very attractive.

Malus Sargentii, a Japanese species introduced to cultivation by Prof. Sargent, has proved quite hardy, and bears each year a profusion of pure white flowers, followed in autumn by attractive bright red fruits about 1 cent. across. Some of the leaves are entire, others more or less pinnately lobed.

Eriolobus Tschonoskii of Rehder is said to grow into a handsome tree of narrow pyramidal habit, especially beautiful in autumn, when the foliage assumes brilliant orange and scarlet tints. It is a native of the mountains of Japan, and is hardy at Boston. It was formerly known as *Pyrus Tschonoskii*. *Ribes fasciculatum* of Siebold and Zuccarini, comes also from the mountains of Japan and northern China. "The bright scarlet fruits, which remain on the branches for a long time, and do not begin to shrivel until the middle or end of November, make the shrub very attractive in autumn."

Various species of *Cornus*, *Viburnum*, and *Lonicera* are mentioned, most of which will be handsome additions to our shrubberies. *Tecoma hybrida* is stated to be a hybrid between *T. radicans* and *T. chinensis*. As a garden plant, *T. hybrida* is valuable, for its flowers are almost as large and showy as those of *T. chinensis*, and it is hardier than that species. It was described in the *Jardin* for 1899, and the description was quoted in the *Garden* of the same year. Its intermediate character is well shown in the illustration on plate 47 between flowers of its parents. *Picea morindoides* of Rehder, tab. 48, seems to be very close to *P. Alcockiana*, but is said to differ in its more elongated cone-scales, in its more slender and longer leaves with stomata only on one side, in the absence of pubescence on the leading shoots, and in the pendulous branchlets.

Our limitations as to space do not permit us to extend our remarks on a publication of very high value to all interested in trees and shrubs.

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Cyclamens.—Plants of a year old which the gardener intends to flower again should have most of the soil shaken from the roots and be re-potted into similar-sized or larger pots. Afterwards place them in a cold frame or pit, and in close proximity to the glass, and afford but little water until the beginnings of growth are visible. Syringe the pots morning and evening, which will almost suffice for the present. Keep the frame, &c., close and shaded from bright sunshine for a few weeks, and, when growth has started, afford air, increasing the amount gradually. The after-treatment is the same as that afforded seedlings raised in the autumn. These last will now be growing freely in frames, and they should be afforded water with much care, and a light sprinkling several times daily in bright weather. Should thrips or green-fly appear on the plants, apply XL-All immediately. If larger plants than ordinary are desired, let the more robust seedlings be selected, which shift into 6-inch pots, using the kind of compost given in my Calendar for April 25.

Euphorbia pulcherrima (*Poinsettia*).—Let the young plants as they become fit be transferred into 5-inch pots, and after one week passed in gentle warmth, place them together with the cut-back plants in cold frames, and afford full ventilation on bright days, closing the lights about 4 P.M., after giving the plants a light syringing. As regards shade, the less the better, as the growth should be firm, short-jointed, and well-ripened. The plants which have been cut back may be afforded pots 2 inches larger than those they are standing in, if they are pot-bound at this early date, using a soil similar to that employed for *Cyclamen*, except that it should contain a small quantity of peat. The manure of deer, sheep, or fowls, if decayed, should be much diluted with clear water, and afforded the plants when the pots have become filled with roots. A like treatment is applicable to *Euphorbia jacquiniæflora*. Cuttings of the tops of aged plants of the latter are by some gardeners struck during the next few weeks; for details of the same see p. 4 of the present volume.

The Plant Stove.—The outer temperature being high during the day, and that of the night not falling below 50°, many of the occupants of this house may be transferred to the conservatory or greenhouse, where they may remain for two months, especially such plants as *Codiaeums*, *Dracænas*, *Acalyphas*, &c., which will be thrown away to make space for young plants. Such plants may be made presentable for some weeks longer by keeping them away from direct draughts and not very wet at the root. Many gardeners apply no fire-heat to the plant-stove for a month or two from this date, but I like to have the pipes slightly warmed during the night, banking down the fire the first thing in the morning, unless the weather should be overcast or rainy. Keep the air moist in bright weather.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Cattleyas.—In the *Cattleya*-house proper plants will be found in all stages of growth, and where there is only one house it is not an easy matter to apply the required treatment to all the plants in it. If the house is of some considerable length, and there are several divisions, the gardener has better means of treating the plants in the manner they require at the various stages of their growth. Then he can set apart one division for plants newly potted, closer and more heavily shaded, while those that are established and growing freely can be afforded full light and much ventilation; as for example, plants of *Cattleya labiata*, *C. Trianaei*, *C. Harrisonæ*, *C. Bowringiana*, and other species, also hybrids which were repotted some time ago, which are now well established and growing freely, should be afforded such position as that I have indicated, and be afforded plenty of water at the root until growth is finished for the year. *C. War-*

neri, C. Gaskelliana, and C. gigas will have finished flowering generally, and should occupy a position similar to the foregoing, but water must still be afforded, as growth at the root is still going on. When the growths are matured much less moisture will be needed. Plants of the last-named species have not flowered freely this year at Westonbirt, owing, doubtless, to the lack of bright sunshine last summer, and as a consequence the pseudo-bulbs were less well matured than in previous years. If bright weather continues this summer the plants will pass through the winter safely, and afford strong flowering growths in the spring. C. Dowiana, and its variety C. D. aurea, require a kind of treatment similar to that which is found to suit C. gigas. These plants so far have a more promising look, most of the growths now developing having visible flower-sheaths; and a close inspection must now be made for signs of "rot" at the base of the pseudo-bulbs. It sometimes happens that the outer sheath of the new pseudo-bulbs, more especially near its base, clings so firmly to it as to prevent the air entering, and as a consequence moisture lodges between the sheath and the pseudo-bulb. The only remedy for this is to split the sheath from the top to the bottom, in order to evaporate the moisture. If this operation be delayed, there is a risk of the pseudo-bulb decaying. When this mishap occurs let the pseudo-bulbs be removed forthwith, and some charcoal-powder be rubbed over the wound. The same trouble is sometimes encountered with C. gigas and the beautiful hybrid C. Hardyana, when in the same stage of growth.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. Pigott, Bart., Wexham Park, Slough.

Cabbages.—It is good practice to make several sowings of Cabbage-seed for furnishing heads in the spring of next year; one sowing being made on or about July 24, again about August 15, and the last a fortnight later. The plants from the last sowing may be left in the seed-bed, and planted out in the spring. The seeds may be sown thinly in drills drawn at 1 foot apart, and should the soil be dry the drills should receive water several times before the seeds are sown. Before filling in the drills scatter finely-sifted wood-ashes over the seed-beds, and cover them with fish-netting as a protection against loss of seeds by birds. Ellam's Early, Wheeler's Imperial, Enfield Market, and Sutton's April, are valuable varieties of Cabbages to come in early.

Early Potatoes.—The tubers, being nearly matured may be lifted, sorted into those for consumption, which may be put into a cool dark cellar; and into sets for planting, which may be left on the ground for a short time to become green, and then stored thinly in a cool place, airy loft, &c. The ground occupied by these crops should be cleared of all rubbish, which, together with the tops, should be burnt, and preparation made for other crops.

Vegetable Marrows.—Cut the fruits when of small size for the table, as when allowed to produce seeds and develop to a large size the bearing capability of the plants is soon exhausted. Afford water abundantly at the root and overhead, and frequently apply liquid-manure. If black aphid infest the plants, syringe with soft-soap 3 oz., and water 1 gallon; and against mildew apply flowers-of-sulphur.

Parsley.—Make a liberal sowing of Parsley seed in a south border, and if the weather and soil be dry, apply water to the drills before sowing the seeds. Draw the drills at 1 foot apart. Thin the earlier sowings to 8 to 10 inches apart, and ply the Dutch hoe between the rows. Afford soot-water frequently in dry weather to plants in active growth, and to Parsley just coming through the soil apply finely-sifted wood-ashes and soot late in the evening or early in the morning.

General Remarks.—The various crops that have been mulched as advised will have benefited greatly during the recent hot weather, and the gardener will have been saved much labour by not having to afford so much water to the plants. In the absence of abundant rain, clean water and manure-water should be copiously afforded to Peas and French and Broad Beans in bearing, to

young growing Cauliflowers not as yet forming heads, Onions, and the like; and keep the surface-soil in a crumbly state by the use of the hoe, this being as good as a mulch for conserving moisture in the land. Water should if possible be applied late in the day. If the gardener can find the time and labour required to syringe or hose his vegetable crops at the end of hot, sunny days, these will be much benefited thereby. Let all spent crops be cleared off the land without loss of time, and all kinds of refuse likely to afford breeding material for insects, or to propagate fungus injurious to plants, be burnt forthwith.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Pruning.—Pear and Plum trees growing in whatever position should now have all side-shoots removed from the main branches, the leading shoots being allowed to grow on untouched till the end of next month. The side-shoots should be broken off by pressing them against the knife blade with the thumb of the hand grasping the knife, the snags being left at about 5 inches in length. These long snags should be shortened in the winter. Remove all useless spray so as to let the sunshine reach the main shoots. The pruning being finished, cleanse the trees of aphid, &c., with the garden engine. Apply water copiously to young trees planted in the autumn of last year should the rain prove scanty, and afford a mulch of stable litter. Where such early Plums as Victoria or Early Rivers are carrying heavy crops of fruit, thinning should now be commenced, and the fruits used in the kitchen. To such well-fruited trees water, and occasionally manure-water well diluted, may be applied at the root.

The Apricot.—In these gardens the trees have cast many of their fruits during stoning, and the crop is a poor one. Like all other stone fruits, the trees are making very vigorous growth. Remove all foreright shoots and laterals, the former being cut back to about 6 inches in length, and the latter pinched to the first or second leaf from the base. When laying-in the leading shoots the operator should proceed carefully, the wood being very brittle; and a nail driven into the brickwork and some soft Russian bast are the better for the securing of these shoots than cast wall-nails and shreds.

The Morello Cherry.—The black-aphid is again infesting the shoots of the Morello Cherry, to destroy which the points of the shoots should be dipped into a vessel holding a mixture of Quassia extract and water. Many of the fruits are dropping off, and I fear the crop will be a poor one.

FRUITS UNDER GLASS.

By T. H. C.

Late Vineries.—Thin bunches which appear likely to become overcrowded with berries, and as a consequence will not keep in good condition for any length of time, more especially called for if the Grapes are to be cut and placed in bottles of water. As only perfect bunches are suitable for this purpose, the Vines should be rather under-cropped than otherwise, so that the crop may finish properly. Make allowance for varieties having large berries, removing berries that might crowd the bunches unduly. Let lateral growths be pinched weekly, and afford to Vines bearing full crops liquid manure or special manure at such times as moisture at the root is required. Afford humid conditions in the vinery, and air as advised in previous Calendars.

Shading.—During bursts of strong sunshine Vines which are carrying fruit at various stages of development, especially ripe black Grapes, will be benefited by being shaded by a thin coat of whitening- and -water applied to the roof by means of a syringe; or instead, a double thickness of herring-net stretched across the roof will answer the purpose.

Tomatos.—The present is a suitable time for sowing seeds and raising plants for fruiting in pots during the winter. A good winter fruiting variety is Ham Green Favourite. Place the seed-pots in a cold pit or frame, afterwards potting them on, and growing them in an unheated pit, standing the plants close up to the glass.

Pot Strawberries.—The earlier layered runners being well rooted may be detached from the plants, and the pots stood close together in a cool shaded spot until they have recovered from the check of removal. These layers may then soon be potted for early forcing in 5-inch pots, and for later work 6½-inch pots. The pots should be new or well cleansed, and must be well crocked. The best kind of compost consists of turfy-loam one year in stack, roughly chopped, to every barrow-load of which a 6-inch potful of bone-meal may be added, together with a small quantity of fresh soot, charred garden refuse, and finely broken mortar-rubble, more or less of the last two according as the loam is heavy or light. Pot firmly, using a rammer, allowing ample space for the reception of water, and taking care to keep the crown of the plant slightly above the soil. Let the pots stand in coal-ashes in an open spot, and allow plenty of room. Apply water carefully, and sprinkle the foliage with water morning and afternoon. Continue to layer runners. Vicomtesse Hericart du Thury, Royal Sovereign, and Scarlet Queen, are excellent for forcing purposes; and for a late variety of most excellent flavour, though deficient in colour, British Queen is one of the best.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

The Budding of Rose Stocks.—The maintenance of a good stock of young and vigorous plants is an important point in the cultivation of Roses, as then the gardener is enabled to discard annually numbers of old worn-out plants. One often observes in gardens standard Roses which ought to have been thrown to the rubbish-heap years ago, growth being weak and flowers comparatively few and of poor quality. By planting a sufficient number of Briers to meet the demand, and budding these annually, the expense of keeping the stock of Roses in vigorous health is small. I alluded a week or two ago to the necessity for disbudding the Brier stocks, and retaining a sufficient number of well-placed shoots, which should now be budded. The art of budding is pretty well known, but some gardeners do not carry out the operation in the best manner, a common fault being to insert the buds at too great a distance from the Brier stem, instead of close to it; and while firm binding is very essential, the pressure should be regular throughout the length of the bud, and not so great as to force the ligature into the bark whilst that is taking place. The bud and shield should be fastened to the shoot in such a manner that the binding material will not slip down and cover the bud itself. In preparing stocks for the reception of buds be careful not to injure the wood, an important point when making the cross-cut at the top of the slit. If the bark of Rose or Brier does not "run," it is imperative that operations be deferred till such time as the sap flows more abundantly, a state of things hastened by affording water copiously to both Roses and stocks. The best buds are usually formed on shoots that have borne flowers the current year. Dwarfing stocks should be budded below the surface level, so that the point of union will be beneath the surface of the soil when replanted. Remove but few shoots having buds at one time, and cover the shoots with wet moss while carrying them; or place them in a watering-pot having water in it, or their freshness will soon be lost.

Carnations.—Seedling border Carnations, if the fertilisation has been carefully performed, afford splendid returns; and the plants are proof against the various diseases to which Carnations raised from layers are liable. There is still time to raise plants this year, provided the seeds be sown forthwith in well-prepared boxes of soil, and these are placed in cold frames.

Bulbs in Grass.—I recommended some weeks ago the planting of Daffodils and Narcissi in grass generally, but in some gardens planting has to be deferred till the hay crop has been mowed. It is not too late, if planting be done forthwith.

Lawns.—Coarse Grasses or bents are untouched by the mowing machine, and the scythe must be employed now and then, bents giving the lawn an untidy appearance if left uncut. As autumn approaches these grasses give less trouble.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, JULY 20	Bedale Rose Society's Exhibition.
TUESDAY, JULY 21	Royal Horticultural Society's Committees meet. Lecture on "New Zealand Horticulture;" National Carnation & Picotee Society's Show at the Drill Hall, Buckingham Gate, Westminster; Tibshelf Rose Show.
WEDNESDAY, JULY 22	Northumberland, Durham, and Newcastle Botanical and Horticultural Society's Exhibition at Newcastle (three days); Cardiff and County Horticultural Society's Show (two days); Horticultural Show at Feltham (Middlesex).
FRIDAY, JULY 24	Royal Botanic Society's Lecture. Rose and Horticultural Show at Halifax. Southern Counties Carnation Society's Exhibition at Southampton.
SATURDAY, JULY 25	Saltire Rose and Horticultural Show.

SALES FOR THE WEEK.

TUESDAY, JULY 21—The Freehold Property known as "The Gardens," Beyton, near Bury St. Edmunds, with two Dwelling Houses, Greenhouses, &c., at The Mart, E.C., by Protheroe & Morris, at 2.

FRIDAY, JULY 24—Imported Orchids, by order of Messrs. Sander & Son; also private collection and consignment of *Phalenopsis amabilis* Rimestadiana, at Messrs. Protheroe & Morris' Central Sale Rooms, 67 & 68, Cheapside, E.C.

TENDER.

For Bulbs for Parks and Gardens, for the London County Council.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —63.4°.

ACTUAL TEMPERATURES:—

LONDON.—July 15 (6 P.M.): Max. 76°; Min. 53°.

July 16 (Noon): Rain; 67°.

PROVINCES.—July 15 (6 P.M.): Max. 72°, Southern Counties; Min. 54°, N.E. Scotland.

Standard fungicides.

WHEN first the practice of using fungicides and insecticides was introduced from

France and America, we did our best to make "spraying" and its results known to our readers, and to urge them to make a trial of the remedies which had been found so efficacious as a preventative or as a cure elsewhere. For a long time we seemed to be preaching to deaf ears. One great difficulty we experienced was owing to the inertness of our manufacturers, whether of spray-pumps or of substances wherewith to spray. We could get little or no information from them on these points, and had even to send out to Canada to get particulars as to "London-purple" and "Paris-green." It is somewhat strange that our services were recognised in America, the very country from which we derived a large portion of our information. Spraying should be regarded as an insurance, but it requires to be done with intelligence and judgment, and at certain definite times, else it may do more harm than good; and the operator must

always remember that he is dealing with deadly poisons, and should exercise due caution accordingly. Spray pumps and other needful apparatus, at one time difficult to procure in this country, may now be got here as well as in France and the United States. The necessary materials may also be had here, but there is a want of a definite standard of strength, and generally of precision as to the details which Mr. STRAWSON, in a little book before us, has endeavoured to supply. He sets his face against popular names as misleading and vague, and is equally emphatic about our stupid weights and measures. Having made his meaning clear he passes on to the description of several of the most commonly used fungicides and insecticides, indicates their percentage, composition, and the best methods of employing them. To those who are unable to procure the late Mr. LODGMAN'S exhaustive work, *The Spraying of Plants* (MACMILLAN & Co.), we commend the smaller publication of Mr. STRAWSON, which contains many serviceable formulas for the manufacture and use of these substances.

Here also we must mention the issue by the Orange Judd Company, of New York, of the fourth edition of Dr. CLARENCE WEED'S *Spraying Crops: Why, When, and How*, a little manual prepared for the purpose of aiding owners of spraying-machines to use them to the best advantage. We are still so often asked to describe the composition and method of manufacture of Bordeaux Mixture that we deem it advisable to extract the full directions given by Dr. WEED.

"Where the mixture has been properly made, there is scarcely any settling after an hour, while the improperly-made mixture has settled more than half.

"Briefly, the best results have been obtained from the use of the Bordeaux Mixture made in accordance with the following directions:—In a barrel or other suitable vessel place 25 gallons of water. Weigh out 6 lb. of copper sulphate, then tie the same in a piece of coarse gunny-sacking, suspend it just beneath the surface of the water. By tying the bag to a stick laid across the top of the barrel, no further attention will be required. In another vessel slake 4 lb. of lime, using care in order to obtain a smooth paste, free from grit and small lumps. To accomplish this it is best to place the lime in an ordinary water-pail, and add only a small quantity of water at first—say a quart or a quart and a half. When the lime begins to crack and crumble and the water to disappear, add another quart or more, exercising care that the lime at no time gets too dry. Towards the last considerable water will be required, but if added carefully and slowly, a perfectly smooth paste will be obtained, provided, of course, the lime is of good quality. When the lime is slaked, add sufficient water to the paste to bring the whole up to twenty-five gallons. When the copper sulphate is entirely dissolved and the lime is cool, pour the lime milk and copper sulphate solution slowly together into a barrel holding fifty gallons. The milk of lime should be thoroughly stirred before pouring. The method described insures good mixing, but to complete this work the barrel of liquid should receive a final stirring for at least three minutes with a broad wooden paddle. The copper sulphate solution should be poured into the lime, rather than the lime into the copper sulphate solution. It is now necessary to determine whether the mixture is perfect—that is, if it will be safe to apply it to tender foliage. To accomplish this, two simple tests may be used. First, insert the blade of a penknife in the

mixture, allowing it to remain there for at least one minute. If metallic copper forms on the blade, or, in other words, if the polished surface of the steel assumes the colour of copper plate, the mixture is unsafe and more lime must be added. If, on the other hand, the blade of the knife remains unchanged, it is safe to conclude that the mixture is as perfect as it can be made. As an additional test, however, some of the mixture may be poured into an old plate or saucer, and while held between the eyes and the light, the breath should be gently blown upon the liquid for at least half a minute. If the mixture is properly made, a thin pellicle, looking like oil on water, will begin to form on the surface of the liquid. If no pellicle forms, more milk of lime should be added.

"The foregoing directions apply to cases where small quantities of the mixture are needed for more or less immediate use. If spraying is to be done upon a large scale, it will be found much more convenient and economical in every way to prepare what are known as stock solutions of both the copper and lime. To prepare a stock solution of copper sulphate, procure a barrel holding 50 gallons. Weigh out 100 lb. of copper sulphate, and after tying it in a sack, suspend it so that it will hang as near the top of the barrel as possible; fill the barrel with water, and in two or three days the copper will be dissolved. Now remove the sack, and add enough water to bring the solution again up to the 50-gallon mark previously made on the barrel. It will be understood, of course, that this second adding of water is merely to replace the space previously occupied by the sack and the crystals of copper sulphate. Each gallon of the solution thus made will contain 2 lb. of copper sulphate, and under all ordinary conditions of temperature there will be no material recrystallisation, so that the stock preparation may be kept indefinitely.

"Stock lime may be prepared in much the same way as the copper sulphate solution. Procure a barrel holding 50 gallons, making a mark to indicate the 50-gallon point. Weigh out 100 lb. of fresh lime, place it in the barrel, and slake it. When slaked, add sufficient water to bring the whole mass up to 50 gallons. Each gallon of this preparation contains, after thorough stirring, 2 lb. of lime. When it is desired to make Bordeaux Mixture of the 50-gallon formula, it is only necessary to measure out 3 gallons of the stock copper solution, and after thorough stirring, 2 gallons of the stock lime; dilute each to 25 gallons, mix, stir, and test as already described. One test will be sufficient in this case. In other words, it will not be necessary to test each lot of Bordeaux Mixture made from the stock preparations, provided the first lot is perfect, and no change is made in the quantities of the materials used. Special care should be taken to see that the lime-milk is stirred thoroughly each time before applying. As a final precaution it will be well to keep both the stock copper sulphate and the stock lime tightly covered. Care should be taken that there is always some excess of lime.

"Cautions.—Most of the copper compounds corrode tin and iron. Consequently, in preparing them for use, earthen, wooden, or brass vessels should be employed, and in applying them the parts of the pump which come in contact with the liquid should be made of brass.

"Always label all poisonous preparations in plain large letters, POISON. Never leave poisonous compounds within the reach of children, ignorant persons, or domestic animals. Never spray trees in blossom. In using a compound with which you have had no experience, and which is reported as at all liable to injure foliage, use only weak mixtures, and, if possible, try its effects first on a small scale. Own a spraying-pump yourself. If you have to wait to borrow

your neighbour's, the chances are that you will begin too late.

"Spray in time; begin early; do not wait until the horse is stolen, and then try to lock the door by spraying. Do not spray indiscriminately anything and everything. Adapt your means to your ends. Study the enemies of your crops, and then fight them intelligently.

"Of two mixtures equally effective, choose the one least liable to injure foliage. Take the trouble to add a little lime to Paris-green or London-purple mixtures.

"Never spray ripening fruit. Always remember that spraying requires the exercise of skill, judgment, and knowledge, to get the best results."

THE ROYAL HORTICULTURAL SOCIETY.—

The next meeting of the Royal Horticultural Society will be held at the Drill Hall, Buckingham Gate, Westminster, on Tuesday, July 21, from 1 to 6 P.M. In connection with this meeting, the National Carnation and Picotee Society will hold its Annual Show. Instead of the subject previously announced, the lecture will be on "Horticulture in, and the Flora of New Zealand," by G. HUNT, Esq.

LILY "PETER BARR."—Messrs. BARR & SONS send us a large flower of a variety of *L. elegans*, some 7 inches across with recurved oblong segments, the inner narrowed at the base into a short stalk, all deeply furrowed on the upper surface, and with a few purplish spots. In colour the flower is distinct from any form that we remember, being of a peculiar shade of yellow-orange, and very bright.

FRUIT IN EASTERN EUROPE.—Intelligence has been forwarded from Serajevo (Bosnia Serai) that the Plum trees in Bosnia escaped the frosts in early April, and promised a short time since to give a good average crop. From Herzegovina we learn that the Walnut, Vine, and Fig suffered severely.

TEN-WEEK STOCKS.—We have received a collection of varieties of the Ten-week stock from Mr. FREDERICK ROEMER, Quedlinburg, Germany. The plants are very strong specimens, and the flowers generally large and bold. This is remarkable, because Mr. ROEMER informs us that the plants have been grown in the open ground, and the season has been much drier than usual. Although rain has been needed greatly, it was impossible to water the plants, their number being very great. All the varieties have pure white double flowers.

Dwarf German is described as the oldest strain of Ten-week Stock in existence. It is very free-flowering, and is said to produce a good percentage of double blooms.

Of the *Large-flowering type* there are several varieties. The type, and one called *Dwarf White*, are floriferous strains having a free branching habit and large flower-spikes. The Wallflower-leaved variety of this section failed to succeed well this season, but it is an attractive variety by reason of its bright green foliage.

Victoria Bouquet branches out very freely, and forms neat, almost perfect specimens. It is recommended for planting in beds, and particularly for cultivation in pots.

Giant Perfection is one of the best summer Stocks. The plant is uncommonly fine, and the flower-spikes and blooms of extra size and good form. It branches freely.

Large Flowering Globe Pyramidal.—A very strong-growing variety, producing large flower-spikes and blooms. Pyramidal in shape, but the plant branches from the base in less degree than others.

Perpetual Perfection.—A strong-growing variety of free-branching habit, about 1½ ft. high. It is

said to bloom uninterruptedly from June until November.

Mammoth White Column, or Excelsior.—A variety that grows 3 feet high, and produces only a single flower-spike. This is studded closely with large flowers of excellent form. The variety, and another known as *Giant Perfection*, are amongst the earliest to flower.

THE "MOSQUITO PLANT."—Sir GEORGE BIRDWOOD lately wrote to the *Times* on this plant. There are known commonly in India several species of "Tulsi" (*Ocimum*), but the best known are "Ram Tulsi" (*O. gratissimum*), "Babui Tulsi" (*O. pilosum*), "Krishna Tulsi" (*O. sanctum*), and the common wild "Tulsi" (*O. villosum*). The two latter are held sacred to Vishnu, and are used in his worship. It is recorded in the sacred books of the Hindus that Krishna assumed the form of Sankasura, and so seduced his wife, Brinda. When discovered, he manifested his extreme regard for her by turning her into the Tulsi plant, and put the leaves upon his head. This is the version given by Mr. D. L. RICHARDSON, Principal of the Hindu Metropolitan College, 1854, in his very interesting work, *Flowers and Flower Gardens*. He was indebted for his information regarding flowers commonly used in the religious ceremonies of the Hindus to BABU KASIPRASAD GHOSH, "the first Hindu gentleman who ever published a volume of poems in the English language." That the leaves of the Tulsi are used by the natives of India as a febrifuge has been known for ages, but its use as a "Mosquito Plant" has not been so generally known. It is well worth experimenting with. In connection with this subject we may mention that Messrs. CANNELL & SONS, up to date as usual, are offering seeds and plants in pots of the "Mosquito expeller."

THE RAIN AS A CLEANSING AGENT.—Some interesting facts regarding the purifying effect on the air of heavy rain are given in the *Lancet*. The writer says:—We have often pointed out that the passage of raindrops through the air not only purifies the air, but imparts a freshening effect to it, due possibly to an oxidising action, and perhaps to the formation of peroxide of hydrogen. Everyone is familiar with the "clean" smell of the air after a rainstorm. According to this view, the air of the county of London must have sustained a very thorough scouring during the remarkably continuous rainfall which began on Saturday, June 13. There was very little movement in the air, and an opportunity was thus afforded of collecting the water for analysis, the results of which would represent some at any rate of the impurities washed out of the air immediately over this area. The following were the results obtained with raindrops caught in the neighbourhood of the Strand on Monday, June 15:—

	Grains per gallon.
Total solid matters	9.10
Common salt	0.800
Ammonium sulphate	0.852
Organic ammonia	0.011
Soot and suspended matters	5.000
Nitrates	None
Nitrites	Very distinct

The amount of ammonia in the form of sulphate is remarkable, and of course its chief origin is the combustion of coal. The nitrites with traces of ammonia are due to electrical discharge in the atmosphere. These results, when worked out with the total rainfall, give some remarkable figures. Taking the rainfall as 3.8 inches in five days (though a higher figure than that has been returned by some observers), we arrive at the calculation, based on each inch representing 22,622 gallons of water falling upon one acre, and the London county acreage as 74,839, that no less than 6,437,229,860 gallons of water were poured over this area. And according to the above results of the analysis of the rain-water, this enormous volume represents the washing out of

no less than 3,738 tons of solid impurities, of which 330 tons consisted of common salt, 267 tons of sulphate of ammonia, and 2,000 tons of soot and suspended matters. Regarding the combustion of 1 ton of coal to produce 20 lb. of ammonium sulphate (a very fair average), the quantity of coal represented by the ammonium sulphate washed out by the storm would be 29,904 tons. It need hardly be added that the purification is not only, as is here shown, mechanical, physical, and chemical, but bacteriological also.

BOOK ON AMERICAN CARNATIONS.—Messrs. J. R. PEARSON & SONS, Lowdham Nurseries, Notts, notify us that they have been appointed European agents for the *American Carnation*, and *How to Grow It*, recently reviewed in our columns.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The usual monthly committee meeting of this Society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening, 13th inst., Mr. THOMAS WINTER in the chair. Four new members were elected, making sixty-one this year, the total membership now being 1026. Five members were reported on the Sick Fund. The Sick List has been unusually heavy during the last half-year.

THE CODLIN MOTH.—It is pitiable to observe how great is the peril of the small crop of Apples left on the trees in orchards and gardens, falling later on from the attack of that dire pest, the Codlin-moth, whose eggs were deposited on the fruits last month. The larvæ at the present time is making their way to the centre of the fruits, causing the latter to fall; and no amount of skill or management will prevent it occurring. We are pleased to learn that Mr. W. HORNE, of the firm of HORNE & SONS, Cliffe, who has been studying the life-history of this moth for several years, has, within the last few months, found a remedy. This he intends making known by reading a paper on the Codlin-moth at the September meeting of the National Fruit Growers' Federation.

COTTON CORNERS.—One of the means used by speculators in their operations is that well known as the "Cotton corner," the latest of which has just collapsed. Extending the area of culture would doubtless be a check on the practice, and in his last report on the condition of Cyprus the Governor suggests to Lancashire mill-owners the advisability of taking up land in the island, where the crop has already done well, and where the inhabitants are acquainted with the manipulation of plant and crop. The idea is well worth consideration.

GARDENER AT THE GROVE, WATFORD.—

We learn that the post of head gardener to the Earl of CLARENDON, The Grove, Watford, has been taken by Mr. CHAS. HARRIS, who has been the foreman in charge for the past two years. Mr. MYERS, who has occupied the post for over forty years, is retiring on a pension.

THE HIMALAYAN POPPIES (MECONOPSIS)

are exceptionally good in the rock-garden at Kew, where they are grown in a partially-shaded recess, with hardy Ferns and Cypripediums for their companions. Some of the stems are 5 feet high. The cool wet weather of the spring and the first half of June has evidently been to their liking.

POA ANNUA.—Some doubts have been expressed as to the possibility of obtaining seeds of this grass in quantities. We have before us a contract from a well-known firm undertaking to supply seeds of this grass at 6d. per lb. Moreover, we have the assurance that the seed was true to name. It is used in association with *Festuca duriuscula*, *Poa pratensis*, and *Cynosurus cristatus* on light, dry soils.

NATIONAL FEDERATION OF FRUIT AND POTATO TRADES ASSOCIATION.—If the services rendered to the traders be in proportion to the length of the title of the "Federation" or of the "Association" (which is it?) the advantages ought to be great. Mr. HENRY EMERY has been appointed Secretary, and offices have been secured at the Tavistock Hotel. The Federation is established to serve the interests of the members of the trade in the provinces and in the metropolis.

SCOTTISH HORTICULTURAL ASSOCIATION.—A copy of the *Transactions* of this Association is before us, containing, in addition to the bye-laws, the list of members, and other business details. These are, of course, quite necessary, but for the gardening public the reports of the papers read at the several meetings are of greater interest. We are not going to specify any one in particular, for they all appear to us to be of interest and value. In these days there is a positive plethora of Garden literature. Much of it is necessarily of ephemeral or of merely local interest; but the papers in this modest pamphlet may be read at any time, in any locality, with profit. We are glad to find that the members number more than 1,100.

POISONING FLOWERS.—It is reported, says the *Pharmaceutical Journal*, that considerable indignation has been caused in the district of Worsley, near Manchester, by the action of some person or persons in poisoning certain flowers in local gardens belonging to cottagers who take a great interest in horticulture and compete for prizes offered by the Worsley Agricultural Society. It is stated that last summer similar outrages were perpetrated in the same neighbourhood.

THE CONGO FLORA.—Our Belgian colleagues continue their active researches into the natural history of the Congo Basin. We have before us the first part of M. DE WILDEMAN'S *Études de Systématique et de Géographie Botanique sur la Flore du Bas et du Moyen Congo*, containing descriptions and lithographic illustrations, some coloured, of various plants collected on the Congo. Among them we find an account, with coloured plates, of two new Cycads, *Encephalartos Lemairelianus* (DE WILDEMAN & DURAND), and *E. Laurentianus*, living plants of both of which have been introduced into Belgium by M. L. GENTIL, so that we may hope shortly to see them also in this country.

PRESENTATION.—Mr. SCLATER, of Messrs. THOMAS METHVEN & SONS, Princes Street, on the occasion of his silver wedding, was the recipient of a solid silver tea service, with suitable inscription, from a large circle of friends in the local trade, and others. The presentation took place on Wednesday, 8th inst., in the Royal British Hotel, under the genial presidency of HARRY ERSKINE. Mr. WILLIAM NEWTON, wholesale fruit commission agent, made the presentation, and Mr. SCLATER in replying referred to the many changes that had transpired in the Edinburgh trade since he served his apprenticeship.

A SHOW IN BRITISH EAST AFRICA.—The last show of the Nacrobai Agricultural and Horticultural Society was a great success. Vegetables of every class, from a Cabbage to a Tomato, Potatoes, Wheat, Barley, Oats, Buckwheat, Maize, Millet, Sim-sim Beans, Ground Nuts, Copra, Grapes, Pineapples, Oranges, Pomegranates, Mangos, Strawberries, Figs, Bananas, and many garden flowers, showing what can be got together by a spirited company. It would appear that much of the soil is of volcanic origin, and that the land has only to be tickled to be made to smile.

ALYSSUM SPINOSUM.

UNDER the heading of "Alyssums" there is an article in the *Gardeners' Chronicle* for June 20, 1903, p. 386, by Mr. Arnott, in which I was much interested, because of the description he gives of the habit and history of *Alyssum spinosum*, which is so strangely at variance with its behaviour with me. I send you with this a photograph of a plant now growing in my rock-garden (see fig. 17), which has been there for about nine years, and shows no sign of failing yet. Every year it is smothered in white blossom, almost entirely concealing the foliage, and though at the time this photograph was taken a good deal of the bloom had fallen, and it hardly shows its full glory, enough is left to prove its value on account of its bloom, as well as its charming foliage. All my plants of *A. spinosum* act in this manner, and they seem able to survive and take care of themselves perfectly, and I should certainly class them as among the very hardiest and most satisfactory of plants that I know for rock-work. I fancy there is a great difference between its behaviour here and in the North of England, as when I lived in



FIG. 17.—ALYSSUM SPINOSUM, FROM THE GARDEN OF S. MARSHALL BULLEY, ESQ., HASLEMERE.

Cheshire I never got much bloom from the plant, whereas here it never fails to bloom.

I have just measured this plant, and find it is 6 feet by 5 feet in width, and about 15 inches above the soil in which it is planted. S. Marshall Bulley, West Down, Hindhead, Haslemere.

LAW NOTES.

"EMPTYES."

SITTING in the Westminster County Court, his Honour, Judge Woodfall, tried the case of *Monro v. Theobald*, in which plaintiff, Mr. Geo. Monro, a fruit salesman, of Covent Garden Market, sued defendant, a produce grower of Durrington, Worthing, Sussex, to recover the sum of £14 5s. in respect of empties supplied and not returned. Mr. Lever, instructed by Messrs. J. C. Button & Co., solicitors to the London Fruit, Flower, and Vegetable Markets Association, Ltd., was counsel for plaintiff, and said the question at issue was one of the greatest importance to salesmen in Covent Garden Market, involving, as it did, the return of empties supplied to growers for the purpose of sending their goods to Covent Garden. The empties in question comprised what were known as "flats," which were charged at 2s. each; "baskets" at 1s. each, and "boxes" at 1s. each, the claim in the present case being in respect of empties which had been sent to defendant and never returned.

The defence raised by the defendant was that he objected to the claim on two grounds. In the

first place he considered plaintiff's claim was excessive, and in the second he contended that empties for which he was being charged were either in a damaged condition when they left plaintiff's premises, or were broken up in the course of transit on the railway.

Mr. Henry Gentry was called, and said he was forwarding clerk in the plaintiff's employ, and his books showed that the empties in question were forwarded to the defendant, and had never yet been returned.

Mr. Sams, a grower, was called, and said he had occasion to go to the defendant's place on business, and although he was quite disinterested in this action, he did not fail to notice that a number of plaintiff's empties were lying rotting outside greenhouses, and were not in any way protected from the weather.

In cross-examination by the defendant, the witness said he was extremely particular as to the return of empties, and always advised other growers to adopt the same course. He absolutely denied, however, that he ever made any suggestion to his fellow-growers to the effect that they would have to look after "Monro" on the question of empties.

The defendant said that, since he had done business with the plaintiff's firm, he had had thousands and thousands of empties supplied to him, and even if the plaintiff's claim was a good one, the amount which he now sought to recover would only represent a loss of about three per cent. on the bulk of goods supplied to him. He contended, moreover, that in many cases empties were in a damaged state when they left the plaintiff's place, and that a large number of them were broken up in the course of transit on the railway.

In giving judgment, his Honour said that inasmuch as the defendant was not legally represented, he had allowed him to say a good deal more than he would have done had he had the assistance of a lawyer. The burden of proof in this case was upon the defendant, but he had absolutely failed to prove any defence whatever to the action. The facts of the case were simple enough, although the question was undoubtedly one of the very greatest importance to Covent Garden salesmen. It was not denied that certain empties were supplied to defendant, and that they had never been returned to the plaintiff's firm. The question as to what became of them ultimately did not arise in this action, and therefore judgment must be given plaintiff for the amount claimed, with costs.

Mr. Lever applied on behalf of the plaintiff for costs on the higher scale in view of the very great importance of the case, and the character of defence which had been set up. His Honour said he had been considering as to whether he should give costs on the higher scale, more especially in view of the very unwarrantable suggestions which the defendant had put forward against the plaintiff's firm, but he was afraid he had no power to do so under the Act. Plaintiff's Counsel said his client would be perfectly satisfied with the observations which had fallen from his Honour.

TRADE NOTICES.

MR. D. S. GOLDING, for the last eighteen years with Messrs. Saltmarsh & Son, Chelmsford, has taken the Seed, Florist, and Bulb Business until recently carried on by Mr. W. H. Hudson, 199, High Road, Kilburn, London, N.W.

MR. T. G. FLANDERS, for the past ten years gardener to Andrew Motion, Esq., Upton House, Banbury, and Faulkbourne Hall, Witham, Essex, has taken over the Casterton Road Nurseries, Stamford, Lincolnshire.

NOLINA BELDINGII.

UNDER this name we have received a photograph of a Yucca-like plant from Lower California (fig. 18). The genus, closely allied to *Dasyliirion*, consists of perennials with a thick woody trunk often dilated at the base, and bearing above numerous linear, rigid, toothed leaves, surrounding a naked flower-stalk terminated by a many-flowered panicle intermixed with bracts. The perianth consists of six narrow, whitish segments. The plants are adapted to live in hot dry localities, as in the deserts of Mexico and Lower California, and are hence included under the heading "Xerophiles." Mr. Baker includes the genus under *Beaucarnea*. *B. longifolia*, *B. recurvata*, and *B. Georgiana* are recorded as being in cultivation, and have been figured in the *Gardeners' Chronicle*, 1870, 1445 (*B. recurvata*), and 1877, vii., 493 (*B. longifolia*).

N. Beldingii is described by Dr. Brandegee in *Bailey's Cyclopædia of American Horticulture*, vol. iii. (1901), p. 1092. As this book may not be accessible to all cultivators, we append Dr. Brandegee's description:—

"*N. Beldingii*, Brandegee.—Arborescent, branching freely; trunk columnar, 1—1½ ft. in diam., 8—15 ft. high; branches short, bearing numerous old and new leaves towards the end; leaves glaucous, a yard or more long, ¾ in. wide, flat, thin, tapering to the point, serrulate on margins, about fifty-nerved, weak and recurved; panicle compound, 6 ft. long or more; fruit emarginate; seeds round-ovate, not bursting the cells. Mountains of the cape region of Lower California. Apparently nearest *N. Bigelovii*, from which it differs in the thinner, more flaccid leaves, and the very much greater size. T. S. Brandegee."

HOME CORRESPONDENCE.

LATE PEACHES.—The systematic cultivation of the Peach late in the autumn does not receive the attention that it deserves. Peaches are undoubtedly favourite fruits at any season, but towards the end of the month of September or the half of October, and in fine seasons till early in November, when stone fruits generally have vanished, the importance of abundant and choice dessert fruit is highly appreciated. With regard to the commercial value of late Peaches, most gardeners agree that, taking the cost of production into consideration, the returns from a late crop is often more remunerative than any other. Some time ago, a gardener gave me an instance which illustrated this point—viz., that of an old widow residing in a southern county, against whose cottage a large Salway Peach-tree is planted, and who was in the habit of disposing of the fruits in the local market at a trifling price. My friend advised her to let him send the fruit to Covent Garden Market, with the result that a handsome sum was realised, considerably more than paid the old woman's rent for the year. It may be contended that late Peaches are lacking in fine flavour, and that this is further deteriorated by the absence of warmth and bright sunshine. This, of course, must be admitted; but the same argument holds good with other fruits that mature at a late part of the autumn. For example, who would think of growing Gros Colmar or any of the other coarse large Grapes for flavour alone, if higher-quality Grapes could be obtained at the same time? They are grown because showy Grapes must be forthcoming at that season. The same reasoning holds good with Peaches, and their scarcity in the autumn gives them an added zest. Late Peaches, when not eaten, can be employed as a compote. The earlier of the late varieties, if I may so use the term, viz., *Bellegarde*, *Barrington*, *Prince of Wales*, and *Late Devonian*, succeed on west walls; and this aspect enables the cultivator to secure a useful succession of fruits. The later varieties—*Princess of Wales*, *Gladstone*, *Lady Palmerston*, *Golden Eagle*, *Walburton Admirable*, and *Salway*—should be planted against a south wall, or there will be a difficulty in ripening and colour-

ing the fruits in ordinary years, especially so in the case of the *Salway*. In very late seasons, such as the present, it may be necessary to assist ripening by covering the trees betimes with some frame-lights, which at this season of the year are usually available in gardens. The best of the varieties before-mentioned, in the order of ripening, are the following:—*Bellegarde*, *Barrington*, *Prince of Wales*, *Princess of Wales*, *Gladstone*, *Osprey*, *Golden Eagle*, and *Salway*. O. Thomas.

POA ANNUA NOT A SELF-FERTILISER.—The Rev. Prof. Henslow having been so kind as to reply to my letter under the above heading in issue of June 13, it is now my duty to make rejoinder. He remarks that I did not allude to the exact period when the anthers first burst and shed their pollen. I have now carefully examined a number of open and opening florets, and find that the anthers dehisce very soon after the florets open, while the filaments are still erect. The anthers are as high as the tip of the lower pale, or higher, and are fully exposed to wind and breeze before they dehisce, in all the cases I have observed, so that pollen must be carried from them about as freely, I think, as in the case of other Grasses. Pollen, of course, may fall on the stigmas below, especially when the air is still;



FIG 18. NOLINA BELDINGII, S. CALIFORNIA, FROM DR. BRANDEGEE.

and it has not been my intention to say that self-fertilisation never takes place, because we commonly understand that cross-fertilisers frequently have that provision, and we know indeed that many cross-fertilisers have special flowers for the express purpose of securing self-fertilisation. I did not propose to show that *Poa annua* does more than most other grasses in securing cross-fertilisation, but the Professor himself provides me with the means of pointing out that whatever the case may be with other grasses, *Poa annua* must be a cross-fertiliser. He says, "The topmost spikelet is often female, and of course must receive a grain from some other floret." That the top floret and the second and third below in other cases may be female I may safely assert. I found a young inflorescence with five top female florets open, on as many spikelets, without a single male flower open, or anther near. It was in a female stage or condition, and the ten stigmas would be as likely to receive pollen from another plant as from their own. Supposing this inflorescence to have been the only one so far advanced on a young plant, it follows that pollen must come from another individual, if the florets are to be fertilised. We might assume that the stigmas could wait, but I think we are justified in assuming that female florets are open in advance by themselves for a purpose—that purpose being cross-fertilisation. The Professor refers to my touching the wider question of the "supposed" superior advantages of inter-cross-

ing. He says, "From a florist's point of view this is undoubtedly, but the stimulus is not permanent. I do not feel sure of the intended scope of this remark, but I cannot believe that plants are under one law when wild, and under another in the hands of the florist. I believe that the florist works in accordance with natural law, and no other. It is impossible to endow any plant with a responsiveness it does not naturally possess. The "stimulus" of cross-fertilisation, the Professor says, is not permanent; but there is no reason, I believe, why it should be, for the "stimulus" in feral nature is reapplied from time to time in all cases where it obtains at all. The Professor says that this question was settled a quarter of a century ago—i.e., that habitual self-fertilisers have the advantage over those that are cross-fertilised. That certainly, in my opinion from what I believe to be the usual point of view, is not the case, for there never was a time when cross-fertilising was looked upon more seriously as the great principle of plant-life. The key to the Professor's position is shown, I believe, in the *Transactions of the Linnean Society*, where he writes, "Now, as Mr. Darwin observes, self-fertilisation secures this end, that of producing seed, with incomparably greater certainty than by any other means." This, of course, is true, and it is not open to dispute; we remember this, whatever may be the argument in favour of cross-fertilisation. As it is true, there must be some supreme advantage in cross-fertilisation which stands on different ground. We observe that practically all the higher plants, and practically all animals without exception, are cross-fertilisers. All nature, therefore, may be said to adopt cross-fertilisation. I think we may assume that nature found, first of all, a stupendous advantage in a means of increase which necessitated the fusion or interaction of distinct cells (sexual increase), and has subsequently found, for the same reasons, still greater advantage in proportion to the dissociation of these distinct cells. I am well aware that there is nothing I can point out that the Professor does not know; but I differ from him in the line of my argument, and Müller's *Fertilisation of Plants*, and Kerner and Oliver's *Natural History of Plants*, "Autogamy," kindly pointed out to me, and which I know well, seem only to confirm me in it. Kerner says it must not be inferred that the only method of reproduction in hermaphrodite flowers is by autogamy. "It is true that cross-pollination appears to be the primary object aimed at, but it is not true that autogamy is avoided. If cross-pollination takes place, there is naturally no necessity for subsequent autogamy; but if cross-pollination fails, autogamy assumes an importance of its own, and the contrivances which have been observed to bring about autogamy are no less numerous than those which favour cross-pollination." If cross-pollination is the primary object aimed at, autogamy is but a substitute and a provision in the event of the failure of the more desirable method. R. Irwin Lynch.

POA ANNUA.—In the *Gardeners' Chronicle* for July 11, 1903, p. 26, Mr. D. McDonald remarks, "It has been stated several times recently that this species of grass is obtainable from seeds. As one who knows something of the grasses of commerce, I say this is incorrect." Your correspondent is usually so accurate, and is always such a pleasant writer, that I regret having to point out that his statement does not agree with my experience. I have repeatedly obtained seeds of *Poa annua*, quite true to name, and free even from an admixture of *Poa compressa* and *P. pratensis*, which Mr. McDonald mentions as the common substitutes. In some parts of Bedfordshire and Cambridgeshire *Poa annua* is the most troublesome weed in fruit plantations where the ground is cultivated. Seeds are produced so continuously and abundantly that it is only by repeated hoeing the land can be kept even moderately clean. In London and other large towns, I know many lawns that are formed almost entirely of this grass, and where it can be kept well watered in hot weather and is not subjected to much hard wear, it has a bright appearance. But it cannot be recommended for general use, as it dies off

quickly in hot dry weather, and does not form a dense permanent turf that will endure much traffic. *Poa pratensis* is an abundant constituent of the pastures in this country; but why does Mr. Donald speak of it as the Kentucky Blue-grass, when it is so much more generally known as the Smooth-stalked Meadow-grass? *Poa compressa* is also well known in many parts of Great Britain, but I have not observed it as frequent in this county; it is easily distinguished from *Poa annua*. As I have been studying and growing the principal useful and ornamental grasses during the past twenty years, your correspondent will understand that I am interested in the subject. *R. Lewis Castle, Ridgmont, Bedfordshire.*

SUMMER FLOODS.—I had often wondered at the sudden appearance in my Thames land, subject to flood, of the Elders, because if they were to cover the former Osier-beds, why had they not done so sooner? The mystery is now explained. There had been no summer flood since 1879. The recent summer flood has killed at once every Elder except some two or three out of several hundred, and possibly all. It has also killed almost every Lilac, and nothing else, unless it is one of the wild Brionies, as we call the less common of the wild creepers, which, with a large leaf, creeps from branch to branch among the Poplars on the river-side. Where I had Lilacs, Persian, red, and giant white, among the different kinds of *Philadelphus*, the Lilacs are killed out and the *Philadelphus* left unharmed. The Virginian Creepers seem to have suffered, but to have survived. The Austrian Briars have also suffered. Of course every annual is destroyed, but that is by mere movement of the roots and deposit of mud. I need hardly add that these Lilacs and Elders thus killed by summer flood had passed through winter floods year after year without harm. *C. W. D.*

THE LATE W. THOMPSON OF IPSWICH.—In your Obituary of "Thompson of Ipswich" you make no mention of him as an author. His Catalogues were always excellent reading; but besides these he published in 1851-2 the *English Flower Garden*, a monthly magazine of hardy and half-hardy plants, in quarto, illustrated. Two volumes only were published, but they were excellent; I have often found them very useful, and prize them highly. The descriptions are excellent, and the plates, though small, are very good. *Henry N. Ellacombe, Bitton Vicarage, Bristol.*

THE LIZARD ORCHIS.—It may interest your readers to know that the Lizard Orchis, which has so often been reported as extinct, still exists in Kent. I had the pleasure of seeing it in magnificent flower on July 10. The following day, in company with Mr. Davy, I had the good fortune to find a wild bush of *Rosa pomifera*, on the cliffs of the foreshore between Walmer and St. Margarets, far from houses. *George Druce.*

SIMETHIS BICOLOR.—One of the rarest wild plants in England, soon I fear to be extinct, has come to me this week from Bournemouth. It was discovered in 1847 by a Miss Wilkins growing profusely in a plantation on the Poole Road. She sent specimens to Dr. Lindley, to Charles Babington, and to Mr. Dennes, Secretary to the Botanical Society; and I possess the letters which they wrote in answer. It was pronounced to be the *Simethis bicolor* of Kunth; not native, introduced possibly with seeds of Pinaster from Western France. The Bournemouth of that date has been wiped out by the speculative builder. The spot in Branscombe where it still grows, not now profusely, is marked for the erection of houses during next year, and it can hardly escape destruction. Two plants have been sent to me, which I hope to rear and present to the Oxford Garden. Meanwhile it seems right to chronicle in your columns what is probably its last wild appearance on English soil. *Corycius senex.*

SAXIFRAGA RHEI SUPERBA.—I am indebted to Mr. Jenkins for giving his opinion of *S. Rhei superba*, which I had purposely omitted from my notes of the pink Saxifrages until I had flowered it in good condition. It reached me from the Continent in bloom, but the flowers were almost white, and I was afraid that it might be a dis-

appointment. Since then, however, it has produced fresh blooms, and these are exactly as Mr. Jenkins speaks of them, being the same colour as those of the typical *S. Rhei*, but larger, and produced on longer stems. As Mr. Jenkins remarks, the foliage of *S. Rhei superba* is larger than that of the type. *S. Arnott.*

SOCIETIES.

NATIONAL SWEET PEA.

JULY 15, 16.—The closing of the Royal Aquarium, Westminster, forced this Society to seek a new place for its exhibitions, and in consequence of this the third annual show, held on Wednesday and Thursday last, took place in the Prince's Hall, within the precincts of the Earl's Court Exhibition grounds. The Prince's Hall is very close to the entrance in Warwick Road, Kensington, and it proved to be much more agreeable than the Aquarium, there being no distracting noise or incongruous scenes. The building itself is bare of any adornment, however, and during the afternoon the atmosphere became exceedingly hot. Thanks to the Committee having forbidden the use of wire, the flowers that were in water lasted well, but the wreaths and crosses looked dreary objects in the course of a few hours. The exhibition was a very full one, and the quality of the flowers excellent. Many of the classes contained quite a surprising number of collections,



and there were sufficient to occupy the space that had been provided.

It was remarked by those responsible for the show, as by others, that an improved effect might be obtained on a future occasion by disposing of a few Palms or other fine foliage plants along the centre of the tables. From the same point of view we would recommend that the vases in the back rows be raised a little, in order that they may be seen to better advantage. An increased height of three quarters of a foot even would effect this.

There were many new varieties shown for Certificate, and several of these are certainly desirable acquisitions. Mr. Horace J. Wright, the hon. sec., had charge of the arrangements; and although these were somewhat unusual, as the place was a new one, there was excellent order, and general satisfaction.

OPEN CLASSES.

Special Classification Class.—The Classification Committee recognises nineteen variations in colour in Sweet Peas, and this class was intended to bring together the best variety of each type. The exhibits consisted of nineteen bunches of flowers, one bunch only of each recognised colour.

The 1st prize collection was from Mr. C. W. BREADMORE, 120, High Street, Winchester, and his selection of varieties was as follows:—Lady Grisell Hamilton, Duke of Westminster, Salopian, Jeannie Gordon, Duchess of Sutherland, Princess of Wales, Lord Rosebery, Dorothy Tennant, Prima Donna, America, Miss Willmott, George Gordon, Lottie Eckford, Dorothy Eckford, Gracie Greenwood, Navy Blue, Coccinea, Hon. Mrs. Kenyon, and Black Knight. 2nd, Mr. MARK FIRTH, Wistow Hall, Leicester (gr., Mr. F. J. Clark), who was very close; 3rd, Mr. A. G. HAYMAN, Hapswood House, Frome (gr., Mr. Ackland).

Thirty-six bunches, distinct.—The 1st prize in this class was won by Mr. MARK FIRTH, Wistow, Leicester (gr., Mr. Clark), and as a representation of a good collection of 36 varieties an enumeration of them may have interest, especially as the exhibit contained the choice new ones, as King Edward VII., &c. They were Lord Rosebery, Agnes Johnson, America, Blanche Burpee, Emily Eckford, Lady Mary Currie, Navy Blue, Glorious, Countess of Radnor, Mrs. Eckford, Lottie Hutchins, Her Majesty, Jeannie Gordon, Shazada, Gracie Greenwood, Monarchy, Prince Edward of York, Salopian, Captain of the Blues, Hon. Mrs. Kenyon, Lottie Eckford, Colonel, Triumph, Lady Grisell Hamilton, Duchess of Sutherland, Miss Willmott, Prince of Wales, Black Knight, Duke of Westminster, Coccinea, Dorothy Eckford, Prince of Wales, Countess of Lathom, Countess Cadogan, and Lovely. 2nd, Mr. LEONARD BROWN; and 3rd, Mr. C. W. BREADMORE. The competition was very close.

Twenty-four bunches, distinct.—There were four exhibits in this class, and Messrs. JONES & SON, Shrewsbury, won 1st prize. Their varieties were Dorothy Eckford, Pink Friar, George Gordon, Salopian, Captain of the Blues, Apple Blossom, Coccinea, Lady Mary Currie, Queen Victoria, Countess of Lathom, Navy Blue, Lord Kenyon, Duchess of Westminster, Lovely, Jeannie Gordon, Countess of Powis, Triumph, Duke of Westminster, King Edward VII., Mrs. Eckford, Maid of Honour, Prince of Wales, Othello, and Prince Edward of York. Mr. C. W. BREADMORE, 120, High Street, Winchester, was 2nd; and Mr. LEONARD BROWN, Daffodil Nursery, Brentwood, 3rd.

Twelve bunches, distinct.—There were four collections in this class, and the exhibits gaining 1st and 2nd prizes were pretty nearly equal in quality. The dozen bunches of flowers from Mr. C. W. BREADMORE were composed of large, strongly-grown flowers, well set up, and relieved with foliage, that showed how vigorous were the plants that afforded the blooms. Another collection, from Messrs. JONES & SON, Shrewsbury, was composed of very fine flowers, of which the size and colour were splendid, and they were fresher than in the group already alluded to. Messrs. JONES & SON were awarded 1st prize. Their varieties were Triumph, Maid of Honour, Lovely, Hon. Mrs. Kenyon, Othello, Lady Grisell Hamilton, Miss Willmott, Dorothy Eckford, Salopian, Jeannie Gordon, Prince of Wales, and Captain of the Blues; Mr. C. W. BREADMORE, was 2nd; and Messrs. E. W. KING & Co., Coggeshall, 3rd.

AMATEURS' CLASSES.

Thirty-six bunches.—This very large class in the Amateur section was won by Mr. A. G. HAYMAN, who showed a very commendable collection; he was followed by L. H. BAXTER, Esq., Brentwood (gr., Mr. H. Holloway); 3rd, Mr. H. J. MICHELS, Kingston.

Twenty-four bunches, distinct.—Mr. A. F. WOOTEN, College Road, Epsom, won the 1st prize from four other competitors in this class. He staged the following varieties, Miss Willmott, Emily Eckford, Mrs. J. Chamberlain, Jeannie Gordon, Dainty, Lady Grisell Hamilton, Navy Blue, Lord Rosebery, Hon. Mrs. Kenyon, Triumph, Lovely, Dorothy Tennant, Dorothy Eckford, Gaiety, Salopian, Prince of Wales, Black Knight, and Eliza Eckford; 2nd, Mr. H. MICHELS, Farleigh House, Kingston (gr., Mr. Hughes); 3rd, Mr. R. BATHURST, Dean Lodge, Iron Acton, Glos.

Twelve bunches, distinct.—The competition in this class was very remarkable, there being fifteen or sixteen collections. After considerable difficulty in determining the points, the 1st prize was awarded to Mr. HUGH ALDERSEY, Aldersey Hall, Chester, who showed the varieties following: Royal Rose, Dainty, Duke of Westminster, Agnes Johnson, Triumph, Dorothy Eckford, Miss Willmott, Mrs. Walter Wright, King Edward VII. (new), Lady Grisell Hamilton, Lady M. Ormesby-Gore, and Jeannie Gordon; 2nd, Mr. T. LLOYD DAVIES, Park House, Addlestone (gr., Mr. Geo. Crabbe); 3rd, Mr. H. J. MEYER, The Grange, Harlow; and 4th, Mr. MARK FIRTH, Wistow Hall, Leicester (gr., Mr. F. J. Clark). All the flowers in this class were very meritorious.

Nine bunches, distinct.—Seven exhibitors had collections of nine bunches, and Mr. HUGH ALDERSEY, Aldersey Hall, Chester, won the 1st prize with excellent flowers in size and colour. His varieties were Lady Mary Currie, Countess of Radnor, George Gordon, Lovely, Hon. Mrs. Kenyon, Lady Grisell Hamilton, Othello, Mrs. FitzGerald, and Agnes Johnson; 2nd, Mr. A. STEER, Royston Park, Pinner; and 3rd, Miss BECKFORD, Oxford House, Ham Common.

Six bunches.—Mrs. F. BREWER, Suffield House, Richmond, had six very pretty bunches, showing the varieties Admirable, Gorgeous (fine colour), Black Knight, Lord Rosebery, Lottie Hutchins, and Hon. F. Bourverie; 2nd, Mr. S. J. JACKSON, Danehurst, Epsom (gr., Mr. G. Boyd); and 3rd, Miss BECKFORD, Oxford House, Ham Common. There were eight exhibits.

BUNCHES OF SWEET PEAS TO COLOUR (OPEN).

The following classes were intended to illustrate the best varieties in the nineteen colour sections recognised by the Classification Committee. The best in any colour could be thus easily determined, and it was noticeable that generally there was greater agreement amongst cultivators than might have been expected.

Two Bunches of White.—In the three exhibits out of seven that gained prizes in this class the varieties shown were Sadie Burpee and the new Dorothy Eckford, the latter generally having the better appearance.

Crimson.—Again all the three prize-winners were unanimous in selecting the same varieties for exhibition, these were Salopian and Mars, and of the two the former showed to the better advantage.

Yellow and Buff shades.—The 1st and 2nd prize-winners chose the varieties Hon. Mrs. E. Kenyon and Lady M. Ormesby-Gore, varieties very similar to each other. In the 3rd prize exhibit, Mrs. Eckford and Queen Victoria were shown. There were four exhibits.

Pink.—The varieties shown in this colour included Lovely, Prima Donna, Countess of Lathom, and Hon. F. Bouverie. In the exhibit awarded 1st prize Lovely and Prima Donna were shown. In the 2nd prize exhibit they were Countess of Lathom and Lovely; and in the 3rd prize Prima Donna and Lovely. There were seven exhibits.

Rose and Carmine.—The varieties known as Lord Rosebery and Prince of Wales won honours in this class. The flowers of each are very fine, but there is a difference in the shade of colour, Lord Rosebery being the brighter, and freer from purple tint. In the 2nd prize exhibit the varieties were Prince of Wales and Her Majesty; and for 3rd, Royal Rose and Lord Rosebery.

Mauve.—The 1st prize varieties were Admiration and Dorothy Tennant, whilst Fascination and Dorothy Tennant were shown in the only exhibit remaining.

Blue.—The two best Blues were Countess Cadogan and Navy Blue, the former being of the lighter-coloured section, and the latter very deep. In the 2nd prize lot Navy Blue was accompanied by Emily Eckford, which, as shown, is somewhat variable, certain flowers showing greater degrees of reddish tint. These varieties were repeated in the 3rd prize exhibit.

Orange.—There is not much difference between the varieties Miss Willmott and Lady Mary Currie, but the latter had four flowers upon a stem more frequently than the other. These varieties were shown in the 1st and 2nd prize collections, and of the two Miss Willmott was the more attractive. In the 3rd prize exhibit, the varieties were Miss Willmott and Gorgeous. There were six exhibits.

Blush.—Duchess of Sutherland and Modesty were shown by the winner of the 1st prize, and Duchess of Sutherland and Countess of Aberdeen by the winner of the 2nd prize.

Picotee edged.—The winner of the 1st prize showed Maid of Honour, one of the most characteristic of this type, and Golden Gate. In the 2nd prize, the exhibits were Lottie Eckford and Golden Gate.

Striped and flaked, red and rose.—There were four varieties shown of this type, and the winner of the 1st prize had Gaiety, white marked with purple, and America, white marked with deep red. In the 2nd prize exhibit, there were Aurora and Mrs. Joseph Chamberlain, whilst America, and Pink Friar, won 3rd prize.

Striped and Flaked Purple and Blue.—There were only two exhibits in this class. The varieties winning 1st prize were Grey Friar and Prince of Wales, and 2nd prize, Senator and Prince of Wales.

Bi-coloured.—The best varieties in the class for flowers exhibiting two colours and two only were Triumph and Prince Edward of York, and both were shown well. In the 2nd prize lot were Jeannie Gordon and Prince Edward of York.

Violet and Purple.—Duke of Westminster and Duke of Clarence were shown by the winner of the 1st prize, and in the 2nd prize lot Duke of Sutherland displaced Duke of Clarence. Judging from the flowers staged the two sorts in the 1st prize lot are the best in the section.

Maroon and Bronze, distinct.—There were six exhibitors in this class, and the varieties Black Knight and Boreatan were the best varieties shown. Othello and Stanley were the only other sorts exhibited.

Lavender.—The only varieties shown in this section, which includes some of the most delicately coloured of Sweet Peas, were Lady Grisell Hamilton, Lady Nina Balfour, and Countess of Radnor or New Countess, which are regarded as synonymous. The winner of the 1st prize had Lady Grisell Hamilton and Lady Nina Balfour.

Fancies.—In this group are included any varieties that are considered to possess more than two colours. The winner of the 1st prize showed Lottie Hutchins and Gracie Greenwood. In the 2nd prize lot, Gracie Greenwood gave place to Dolly Varden. There were four exhibitors.

Magenta.—Only one exhibitor put in an appearance here, and he showed Captivation and George Gordon.

Cerise.—The two bunches might be similar in this class, consequently every exhibitor had Coccinea in duplicate, showing that the variety has no rival.

The principal prizewinners in these classes were Mr. C. W. Breamore, Mr. Hugh Aldersey, Aldersey Hall, Chester; Mr. R. Bathurst, Dean Lodge, Iron Acton;

Miss Beckford, Oxford House, Ham Common; Mrs. F. Brewer, Sufield House, Richmond; Mr. M. Y. Green, The Lodge, Eynsford; Mrs. A. Tigsell, Harrow View, Southall; T. Lloyd Davies, Park House, Addlestone; and Mr. H. J. Michels.

DECORATIVE CLASSES.

There were several classes for flowers arranged for decoration. In the principal class for a decoration for the dinner-table, Miss C. J. COLE, The Vineyard, Feltham, was 1st, and Messrs. JONES & SON, Shoplatch, Shrewsbury, 2nd. There were six exhibits in a similar class confined to amateurs. Mrs. RALEY, St. John's, Withead, near Brighton, was 1st, and The Rt. Hon. Earl SPENCER, K.G., Althorp Park, Northampton (gr., Mr. Silas Cole), was 2nd.

The nicest épergne of Sweet Peas was arranged by Miss C. J. COLE, The Vineyard, Feltham; Miss DOROTHY M. OLIVER, 97, Tollington Park, N., was 2nd.

Messrs. JONES & SON had the best bouquet of flowers, and Miss C. J. COLE the best basket.

NEW VARIETIES.

Awards were made to the following varieties:—

Scarlet Gem, exhibited by Mr. H. ECKFORD, Wem, Salop, of very bright red colour, may be described as "Sweet Pea scarlet"; excellent size and form. Awarded a First-class Certificate and also a Silver Medal offered for the best novelty of the year.

King Edward VII., of deeper red colour than the foregoing variety; very fine, of large size, and excellent standard. Shown by Mr. ECKFORD (First-class Certificate).

Bolton's Pink.—A very rich, pink-coloured variety, of good size, shown by Mr. ROBT. BOLTON, Carnforth (Highly Commended).

Florence Molyneux—A very charming striped variety, shown by Mr. ED. MOLYNEUX and Messrs. DOBBIE & CO. (First-class Certificate).

Cupids.—The following varieties of the dwarf Cupid were shown: Royalty, rosy-pink (Highly Commended); Her Majesty, of very deep rose colour (First-class Certificate); Lottie Eckford, mauve colour (First-class Certificate); Mrs. J. Chamberlain, striped rose and white (Highly Commended); and Captain of the Blues (Highly Commended). These were shown by Messrs. H. CANNELL & SONS, Swanley.

Lathyrus latifolius albus grandiflorus.—This extraordinary white variety of the perennial Pea has been described many times in these pages. Shown by HOBBIES, LTD. (First-class Certificate).

NON-COMPETITIVE EXHIBITS.

Messrs. HOBBIES, LTD., Dereham, Norfolk, exhibited Roses, Carnations, and Sweet Peas (Gold Medal); Messrs. DOBBIE & Co., Sweet Peas (Silver-gilt Medal); Mr. C. W. BREAMORE, Sweet Peas (Gold Medal); Mr. ECKFORD, Sweet Peas (Silver-gilt Medal); Messrs. H. CANNELL & SONS, Sweet Peas, including an excellent lot of Cupids in variety in pots (Gold Medal); Messrs. JONES & SON, Shrewsbury, Sweet Peas (Large Silver Medal); and Messrs. E. W. KING & Co., Coggleshall, Sweet Peas (Silver Medal).

ROYAL HORTICULTURAL Scientific Committee.

JULY 7.—Present: Dr. M. C. Cooke, V.M.H. (in the chair); Messrs. Holmes, Gordon, Massee, and Saunders, Prof. Boulger, Revs. W. Wilks and G. Henslow (hon. sec.).

Apple trees and Insects.—Mr. SAUNDERS reports as follows upon specimens received from Mr. Campbell, of Ardross, Leeds:—"The Apple-trees are attacked by the caterpillars of two different moths, but the habits of both kinds are very similar. The green caterpillars are those of the winter moth (*Cheimatobia brumata*), the brown and yellow ones of the great winter moth (*Hybena defoliaria*); both belong to the family Geometridæ, and are two of the most destructive pests to Apple-trees. The females of both kinds are either wingless or have only the rudiments of wings, so that they are incapable of flight. The chrysalides are formed in the ground, so that when the moths emerge, it is evident that they must climb up the trees if they wish to lay their eggs, as is their custom, near the buds. To prevent this ascent is one of the most important things to be done, if it is desired to protect the trees from attacks by the caterpillars. The simplest way of effecting this is to fasten grease bands round the stems, which the caterpillars are unable to cross. As this might injure the tree if the grease came in contact with it, a strip of grease-proof paper, 7 or 8 inches wide, and long enough to overlap an inch or more, should be tied round the trees, say 3 feet from the ground, and fastened top and bottom with best matting or soft string that will not cut the paper. Over this should be tied a strip of calico about the same width, also tied top and bottom; this must be well smeared with cart-grease, soft soap,

and train-oil mixed, so that a soft, sticky compound is formed in which the moths will be caught. These bands should be put into position as early as the middle of October, and kept in working order until well after Christmas. To do this the bands should be re-greased every now and then, or whenever it is found that the grease is losing its stickiness, or, as is sometimes the case, that it is clogged up with the number of moths caught in it. Notwithstanding these precautions, some of the females may find their way into the young shoots. Some are no doubt carried by the males (who fly well) when coupled, so that it is useful, when it can be carried out, to spray the trees before the buds show any signs of opening with a caustic alkali wash, made by dissolving 1 lb. of caustic soda in half a bucket of water, add $\frac{1}{2}$ lb. of pearlash, and stir until all is dissolved, then add enough soft water to make 10 gallons, and finally stir in 10 oz. of soft soap which has been melted in a little hot water. This mixture is very caustic, and must not be allowed to touch the skin or clothes, or if it does it should be wiped off as soon as possible. A still day should be chosen, so that the wind will not blow it on to the operators; this spraying should kill the eggs if any are laid on the tree. To destroy the caterpillars the trees should be sprayed as soon as the fruit has set with paraffin emulsion, or $\frac{1}{2}$ lb. of Paris-green and $\frac{1}{2}$ lb. of lime mixed in 50 gallons of water. This mixture must be kept well stirred, as the Paris-green is very heavy and soon sinks to the bottom, and in this case some of the mixture will be too weak to kill the caterpillars, and the rest so strong that the foliage will be injured."

Lilac shoots and Frost.—Mr. MASSEE showed a curious and important effect of frost on the leaves of the Lilac. The apex was frost bitten, then, after a thaw, the leaf became attacked by Botrytis cinerea, which travelled down the region of the midrib and petiole, till it attacked the terminal bud between the leaves. As thousands of flower buds were thus destroyed in consequence of the late frost, great pecuniary loss accrued to the growers for the flower markets.

FLORAL COMMITTEE AT CHISWICK.

JULY 15.—Present: H. B. May, Esq. (in the chair); and Messrs. W. J. James, A. Perry, C. Jeffries, R. Dean, W. Cuthbertson, W. P. Thomson, H. J. Jones, J. W. Barr, C. R. Fielder, J. F. McLeod, and C. Dixon.

AWARDS OF MERIT.

Poppy Mephisto.—Plant of upright, vigorous habit, and very free-flowering. Flowers single, 4 or 5 inches across, with deeply-cut petals; colour crimson, heavily blotched with black. From Messrs. BARR & SONS, 12, King Street, Covent Garden.

Poppy Cardinal, white.—A sturdy-growing variety, 18 inches or so high, with lovely Hollyhock-shaped, snow-white flowers $3\frac{1}{2}$ inches across. From Messrs. DOBBIE & Co., Rothsay.

Poppy "glaucum."—The Tulip-Poppy is well adapted for edgings, as it is neat in growth, rarely exceeding 15 inches in height. It is of branching habit, and displays beautifully-shaped crimson flowers, blotched with black at the base of each petal. From Messrs. DOBBIE & Co., Messrs. BARR & SONS, and Messrs. JAS. VEITCH & SONS, King's Road, Chelsea.

HIGHLY COMMENDED.

Poppy White Colossal.—Height, 2 feet 6 inches; upright habit. Flowers double, 5 inches across, white, like a narrow petalled Begonia. From Messrs. BARR & SONS.

Poppy Mursell fl.-pl., American Flag.—A strong-growing variety, about 2 feet high, with double Carnation-like flowers, white ground streaked and edged with purple. From Messrs. DOBBIE & Co.

Poppy Blush Cardinal Victoria (syn. New Double Victoria).—Height 18 inches. Plant of upright, sturdy habit; flowers double, pale pink. From Messrs. DOBBIE & Co.

Poppy "arenarium."—Height 15 inches. Plant of slender habit, with scarlet flowers blotched with black at the base of each petal. A continuous bloomer. From Messrs. DOBBIE & Co.

MEETING OF THE CHAMBRE SYNDICALE AT GHENT.

JULY 6.—At the meeting on the foregoing date of the Chambre Syndicale des Horticulteurs Belges, the following awards were made:—Certificates of Merit for *Cattleya Goossensiana* var. *magnifica* (par acclamation), *C. Mossie alba* var. *superbissima* (par acclamation), and for *C. Parthenia* var. *nobilissima* (*C. fimbriata* x *C.*

Mossiae, all from M. A. PEETERS, of Brussels; for C. Mossiae, from Mme. L. DE HEMPTINNE; C. Mossiae Reineckiana, from the Marquis DE WAVRIN (*par acclamation*); and for C. Mossiae Wagneri citrina (*à l'unanimité*), and for C. Mendeli delicata—these two plants also from the Marquis DE WAVRIN. Certificates were also allotted for Laelio-Cattleya (C. gigas x L. elegans Turneri), from M. T. DE BIEVRE, head gardener at Laeken (*à l'unanimité*); for a group of C. Mendeli, from M. M. VERDONCE (*par acclamation et avec félicitations du Jury*); and for C. Mendeli, from the same exhibitor.

Floral Certificates were won by Oncidium pulvinatum, from Mme. L. DE HEMPTINNE; and for Odontoglossum Schlieperianum, from MM. J. VANDEPUTTE ET CIE.

Honourable Mention was awarded for Trichopilia coccinea, from MM. POURBAIX FRÈRES, of Mons; and for Aërides Wagneri, from the Marquis DE WAVRIN.

Certificates of Merit were awarded to Anthurium Pourbaixi, from MM. POURBAIX FRÈRES; double Begonia Souvenir de Louis de Smet, from M. P. PARRE; for cut flowers of Dianthus barbatus, sent by M. F. VAN DRIESCHE (*à l'unanimité*); and a similar award (*par acclamation*) was awarded for cut flowers of Dianthus barbatus, with double flowers, sent by the same exhibitor.

EALING HORTICULTURAL.

JULY 8.—The thirty-ninth exhibition was held in the Walpole Park on the above date, and, for the district, there was a good display of plants, flowers, and fruits. The weather was fine, in marked contrast to that of last year, when the show was held at Gunnersbury Park amid drenching rain.

Prizes open to all comers were for Roses only, and two trade competitors entered in both classes. Messrs. G. & W. BURCH, nurserymen, Peterborough, came South with some very fine blooms indeed, and took the 1st prizes both for forty-eight and twenty-four blooms; Mr. C. TURNER, Royal Nursery, Slough, coming 2nd in both classes. Such varieties as Her Majesty, Souvenir de Président Carnot, Ulster, Antoine Rivière, Marchioness of Londonderry, Gladys Harkness, Bessie Brown, Frau Karl Druschki, Mildred Grant, Muriel Grahame, White Lady, Medea, Madame J. Ramey, and White Maman Cochet, were in fine character, and greatly pleased the local rosarians. Roses shown by local growers were very good for the season. The Society's Silver Cup for twenty-four blooms was won by Mr. W. OWEN (gr., Mr. R. Green).

Specimen plants were fair. Some good Fuchsias were staged, both as bushes and standards. The best specimen flowering plant was a fine Begonia corallina, and the best foliage plant a good bush of Asparagus plumosus. There were also some excellent table plants from Mr. F. G. GLEDSTANE'S, Old Manor House, Gunnersbury (Mr. F. MILSON, gr.), among them Leea amabilis, a charming table plant, the leaves veined with silver on a dark olive-green ground—a plant that appears to be only imperfectly known; it is a stove subject.

Some good black and white Grapes were shown by Mr. MILSON; otherwise the Fruit classes were weak; while the vegetables grown by gardeners were distanced in quality by those produced by working-men on the allotment gardens.

Mr. J. HUDSON, gr., Gunnersbury House, sent blooms of Nymphaea stellata, also a deeper coloured Berlin variety named W. Stone, and a large seedling from N. gigantea, with a number of very fine blooms of the hardy varieties. Mr. GEO. REYNOLDS sent from Gunnersbury Park a fine group of flowering plants, in which Carnations and the blue-flowered Exacum macranthum were delightful features.

Messrs. FROMOW & SONS, nurserymen, Turnham Green, had a large group of Japanese Acers, mingled with white Lilies; and Mrs. H. B. SMITH, Court florist, Ealing, had a collection of most delightful designs in flowers, which formed excellent object-lessons to the ladies who exhibited in the foregoing classes.

DEVON & EXETER GARDENERS'.

JULY 8.—The annual summer outing of the Association took place on the above date, about ninety members, honorary members, and friends joining in a journey to Watermouth Castle, the seat of Mr. C. H. BASSET, formerly M.P. for Barnstaple, and Master of the Devon and Somerset staghounds.

The castle, situated about five miles from Ilfracombe, stands on an eminence overlooking the Bristol Channel, with the Welsh coast and Lundy Island in the distance. Mrs. Basset and her daughter (Mrs. Curzon) welcomed the party, and the latter, with Mr. James Turner, the head gardener, accompanied the visitors on their walk through the gardens and grounds. Growing against a wall, in the open, a Citrus was noted, with many large ripe fruits on it. Hard by were two grand specimens of Acer polymorphum atropurpureum, with Bambusa nobiles 20 ft. high near to them. Good examples of Chamaerops excelsa were noticed, and of Halesia tetraptera. Bananas are well grown in the houses; and in a pool were noted some good

Nymphaeae—Laydekeri, rosea, L. lilacea, L. purata. Marliacea carnea, M. chromatella, Robinsoniana, aurora, Andreana, &c. These are growing at the foot of what is being converted into a wild or alpine garden. The mansion contains many art treasures and trophies of the chase. Under the quadrangle in front are many tunnelled subways formerly used by smugglers, and communicating with a series of caves adjoining, which were explored by the party.

Combe Martin, an ancient market town, once the headquarters of the local silver-mines, and now a straggling fishing village, consisting of a single street about two miles in length, was visited.

CROYDON HORTICULTURAL.

JULY 8.—Held on the above date in the grounds of Addiscombe Court, the residence of the Mayor. Undoubtedly the great feature of the show was the Roses, as these nearly filled a big tent, and were in unusual force.

The most interesting competition was in the Amateur class, for the new Challenge Vase, thirty six flowers being staged. This was won by A. TATE, Esq., Downside, Leatherhead (gr., W. Mease), with really very fine blooms, one of which, Mrs. J. Laing, was awarded a Silver Medal, as being the best in the exhibition. A few other fine flowers were François Michelin, La France, Her Majesty, Mildred Grant, Marie Baumann, White Maman Cochet, and Dr. Andry. Mrs. T. B. HAYWOOD, Woodhatch, Reigate, was a good 2nd, her gardener, Mr. C. J. Salter, having taken the Cup wholly last year. But this lady had good 1sts in the classes for twenty-four Roses, fifteen Teas, six trebles, and twelve of one variety, beautiful blooms of Mrs. J. Laing. Mr. E. MAWLEY, of the National Rose Society, was awarded a 1st in one class. Local amateurs exhibited very largely. The trade figured strongly also; Messrs. B. CANT & SONS, Colchester, coming 1st with, forty-eight singles, having with others Marie Verdier, Ulrich Brunner, Dupuy Jamin, Mrs. J. Laing, La Hayre, and Karl Druschki; Messrs. D. PRIOR & SONS, Colchester, were 2nd; Messrs. F. CANT, Colchester, 3rd. Messrs. B. CANT & CO. were again 1st with twenty-four blooms.

Messrs. D. PRIOR & SONS were 1st with twelve of one variety in fine blooms of Bessie Brown; Messrs. F. CANT & CO. coming 2nd with very fine flowers of Karl Druschki. In another class Messrs. F. CANT & CO. were 1st with beautiful flowers of Mrs. E. Mawley. Mr. SALTER had the only lot of twenty-four bunches of stove and greenhouse flowers; a fine collection of Orchids, Allamandas, Gloxinias, Pelargoniums, Cannas, &c.

Sweet Peas were shown in remarkable abundance, as also were hardy flowers in the numerous competitive classes; indeed, cut flowers were in unusual force.

MISCELLANEOUS.

The horticultural trade, as is usual at shows, figured largely, doing so very much to make another huge tent most attractive. Messrs. J. LAING & SONS, Forest Hill, had a fine group of Palms and other foliage plants, set on a base of brilliant Begonias; and against a background of hardy cut flowers. Mr. T. BUTCHER, Croydon, had a somewhat similar plant group, which included many fine Kalosanthes, Hydrangeas, Pelargoniums, &c., and also a table of floral decorative material. Mr. J. B. BOX, Croydon, put up a very effective bit of rockwork and a superb lot of Begonias. Messrs. J. JACKMANN & SONS, Woking, and Messrs. PAUL & SONS, Cheshunt, had fine banks of cut Roses.

Messrs. T. WARE & SONS, Feltham, had quite a big collection of hardy cut flowers. Mr. AMOS PERRY, Winchmore Hill, also had these, also a fine collection of Nymphaeas in water; and Messrs. H. CANNELL & SONS, Swanley, put up one of their unrivalled collections of Cannas, in a group and in small pots—all held to be so easy to grow, yet singularly enough no one attempts to rival this firm in producing them.

FRUIT

was moderately shown, the only collection of six dishes coming from Col. INGLIS, Reigate (gr., Mr. Phillips), which comprised Black Grapes, Melons, Pineapples, Nectarines, Figs, Pears, and Royal Sovereign Strawberries.

The best White Grapes, very fine berried Buckland Sweetwater, came from H. PARTRIDGE, Esq., Castle Hill, Bletchingley (gr., Mr. Barber); Foster's Seedling coming 2nd and 3rd.

With Black, Mr. LINTOTT, gr., Marden Park, was 1st with well-finished Hamburg; Mr. BLURTON, gr., Kingswood Warren, Banstead, was 2nd.

Mr. LINTOTT had a fine dish of Royal Sovereign Strawberries; Mr. BARBER coming 2nd with the same variety.

Mr. PHILLIPS had the finest dish of Tomatos, and Mr. BARBER, was 2nd.

Visitors crowded the tents and grounds during the afternoon and evening.

Mr. JOFFEY continues to be the affable and courteous secretary.

ULVERSTON.

JULY 10.—A good show of Roses and the best of music are attractions which have made this celebrated Northern show a success every year. Throughout the day the trains brought in crowds of visitors, and again the "gate" was early assured. The exhibition was held in Todbusk Park, the marquee erected covering a space of 210 feet by 30 feet. Had the weather proved propitious on the previous week, the entries would have exceeded those of any previous show at Ulverston, but the gale was of so furious a kind as to render many rosarians unable to compete.

In the Nurserymen's section, a very fine exhibit came from Messrs. ALEX. DICKSON & SONS, Newtownards, co. Down, who had truly marvellous blooms in the class for seventy-two distinct varieties. The best blooms were those of Bessie Brown, Alice Lindsell, Dr. Andry, Ulster, Frau Karl Druschki, Mrs. Conway Jones (a fine novelty), Mildred Grant, Robert Scott (extra fine), Mrs. D. McKee (a new yellow H.T.), and A. K. Williams.

For sixteen trebles and for thirty-six distinct varieties they led the way with superb flowers of Lady Ashdown (new), Gladys Harkness, Mildred Grant, Alice Grahame, Alice Lindsell, Louis Van Houtte, Duchess of Westminster, Horace Vernet, Gustave Piganneau, Marchioness of Dufferin, and Bessie Brown. In the latter class, Mr. H. V. MACHIN, Workop, was 2nd with flowers of much smaller size.

In the class for eighteen distinct varieties, six dark, six light, and six Teas, Messrs. DICKSON were 1st, staging Lady Derby (new), Frau Karl Druschki, Bessie Brown, Luciole, and Gladys Harkness; Mr. H. V. MACHIN was 2nd. Messrs. DICKSON'S Teas were handsome. They had also the best twelve dark-coloured Roses in Tom Wood, and the twelve light in Mildred Grant, the best seedling in Lady Ashdown, a beautiful variety.

The same firm of nurserymen won the Bronze Medal for the best Rose in the show with Mildred Grant; Mrs. E. Mawley was their best Tea.

NEW ROSES.

The New Rose class consisted of Alice Grahame, Gladys Harkness, Duchess of Westminster, Lady Derby, Robert Scott, Countess of Annesley, Mildred Grant, Frau Karl Druschki, Duchess of Portland, and a seedling. The Gold Medal was awarded them for points. In almost every class Mr. MACHIN was very creditably represented.

Amateurs made an imposing addition, the Gold Challenge Cup and National Rose Society's Medal going for the second year in succession to F. W. TATTERSALL, Morecambe, with blooms of fine quality, and in variety similar to those previously mentioned. The Rev. R. T. LANGTREE had an unusually even lot of eighteen distinct varieties; and with Mr. MIDLEY and Mr. MACHIN honours were very evenly divided in the smaller classes. Mr. MACHIN scored with six trusses of Gustave Piganneau, the same variety winning for him the Bronze Medal. Mrs. W. J. Grant was the best H. T., shown by Mr. GARNETT.

The Ulverston District Challenge Cup was taken by Mr. T. J. HARRISON, Ulverston, and the Myles Woodburne Challenge Trophy by Mr. H. E. JOHNSON, for Innocente Pirola.

MISCELLANEOUS.

The J. Towers Challenge Trophy, value 20s., for Sweet Peas, brought out a splendid array, and Mr. MARK FIRTH, Leicester, won; as he also did for twelve bunches.

For one of ten guineas Dr. JACKSON proved victorious. Hardy cut flowers from Messrs. A. DICKSON & SONS were excellent, as were the Sweet Peas from Messrs. BOLTON & JONES; and a group of Souvenir de la Malmaison Carnations from Mr. Fenner, gr. to VICTOR C. W. CAVENDISH, Esq., M.P., formed a striking exhibit.

The onerous duties of arranging the show were ably carried out by the joint honorary secretaries, Messrs. Mackereth and W. Poole. *Orchid.*

MANCHESTER HORTICULTURAL.

JULY 11.—Manchester is a noted horticultural centre, holding some seven shows annually, and on the 11th inst. a very fine exhibition took place in the Royal Botanical Gardens in that city. The creepers on the roof of the spacious annexe scarcely afforded the amount of shade required, and long stretches of tiffany were put up, and as the day was somewhat overcast visitors were enabled to inspect the exhibits in comfort.

Before proceeding to mention the exhibits, there is an interesting fact to be recorded as to the future of the Manchester Botanic Gardens, and one that should gladden the hearts of all who know the good work that has been carried on in them, and who have of late years seen their future hanging in the balance. The Stretford Council, in whose district they are situated have been for some time in negotiation with the Botanical Council, and at the luncheon over which Mr. Alderman Gibson presided, Mr. F. Robinson, Chairman of the District Council, said that there were two things

on which both parties were agreed, viz., that since 1829 the Society had done a grand work in forwarding the study and spread of horticulture, and must continue to do so, and also that the gardens must remain for ever for the public benefit; and on these grounds the Stretford Council were unanimous in promoting both these ends.

Of the exhibition itself, we are able to speak in the highest terms. The Roses this year have suffered in Lancashire more from the weather than perhaps any other outdoor flowers, and great was the surprise afforded by the exhibits from Essex, Gloucestershire, Herefordshire, Worcester, Berks, and the North of Ireland, which entered the competition. Nor were the Lancashire Roses greatly below the usual standard of excellence, except that in several stands the blooms were deficient in size and not of good form. In every class competition was keen.

The class of sixty distinct varieties brought six competitors, and the highest award fell to Messrs. HARKNESS & Co., Hitchin, with a bright, varied stand of bold blooms, the following being among the more prominent varieties:—White Maman Cochet, Ulster, Mildred Grant, Mme. Hoste, La France de '89, Mrs. E. Mawley, Papa Lambert, Gustave Piganneau, Mrs. W. J. Grant, Her Majesty, Medea, Marchioness of Londonderry, Mrs. J. Laing, Duchess of Portland, and Frau Karl Druschki. Messrs. ALEX. DICKSON & SONS, Newtownards, co. Down, and Ledbury, were 2nd. Perhaps the flowers from the Irish firm were not so heavy as those from other sources; the collection was notable for containing the splendid new Rose Dean Hole, a flower of a deep flesh-colour; Dr. Davison, dazzling scarlet, shaded intense violet-crimson, and a great acquisition; and Mrs. D. McKee, a rich yellow H.T. The blooms of Mildred Grant, Louis Van Houtte, Lady Mary Fitzwilliam, and Alphonse Souper were distinctly good. Messrs. F. CANT & Co., Colchester, were 3rd.

Eight competitors showed in the class for thirty-six, distinct; and here again Messrs. HARKNESS led with very superior flowers, those of Bessie Brown, Killarney, Ulster, Ulrich Brunner, Gladys Harkness, Papa Lambert, Gustave Piganneau, Her Majesty, and Frau Karl Druschki being very conspicuous. Messrs. D. PRIOR & SONS, Colchester, were 2nd, showing capitally.

The most brilliant class in the show was that for twenty-four Teas or Noisettes, in which Messrs. F. CANT & Co. were placed 1st by very few points. Exquisite were the blooms of Etoile de Lyon, Francisca Krüger, Madame Hoste, Jean Ducher, White Maman Cochet, Mrs. E. Mawley, Cleopatra, Comtesse de Nadaillac, and Emilie Gonin. Mr. G. PRINCE, Farringdon, was 2nd.

There were nine competitors in the class for twelve varieties of Tea Roses, the contest being this time in favour of Mr. G. PRINCE for a very beautiful lot of blooms.

There was in the classes for twelve single trusses the same keen competition, and the quality, substance, and colour of the blooms caused much admiration, the award for twelve of any white or yellow falling to Messrs. R. HARKNESS & Co., with White Maman Cochet; for twelve crimson variety, to the KING'S ACRE NURSERY Co., for A. K. Williams; and twelve any light coloured to Messrs. ALEX. DICKSON & SONS, with superb Mildred Grant. In this section Messrs. ALEX. DICKSON & SONS had the best H.P. or H.T. in Mildred Grant; and Mr. GEORGE PRINCE had the best Tea in white Maman Cochet.

AMATEURS.

Not less exciting was the contest waged in these classes, the six boxes of twenty-four distinct varieties being the equals of any in the exhibition. Mr. E. B. LINDSELL, Brearton, Hitchin, was 1st with blooms which could scarcely be surpassed, and we especially name Frau Karl Druschki, Horace Vernet, Dr. Andry, Alice Lindsell, Gustave Piganneau, Muriel Grahame, and Marchioness of Londonderry; Rev. J. H. PEMBERTON, 2nd, had smaller high-coloured blooms.

Mr. LINDSELL's flowers were of great merit in his 1st prize stand of twelve blooms distinct; Mr. R. FOLEY HOBBS being 2nd.

For the best eighteen Teas or Noisettes Mr. CONWAY JONES, Gloucester, carried off the honours in fine style with scarcely a faulty bloom, Comtesse de Nadaillac, Medea, Innocente Pirola, Elise Fugier, and souvenir de S. A. Prince, being his finest; Mr. R. FOLEY HOBBS was 2nd.

Mr. R. PARK, Bedale, had a capital dozen of Teas or Noisettes; and for twelve blooms of any light-coloured Rose Mr. R. PARK was 1st with Bessie Brown; Rev. J. H. PEMBERTON, for twelve white or yellow, was 1st with Bessie Brown; and twelve any crimson he was 1st with Gustave Piganneau.

The display of garden Roses was not so good as usual, and the 1st prize went to Mr. JNO. MATTOCK, Oxford. Messrs. J. TOWNSEND & SONS had a canopy of well-flowered Crimson Rambler and other interesting varieties. By far the best lot of flowers were shown by Mr. PRINCE, who was 3rd.

Mr. MATTOCK had the best twelve bunches of button-hole Roses.

Messrs. PERKINS, of Coventry, were 1st for three bouquets with Niphetos, Sunrise, and Catherine Mer-

met. The basket from the same exhibitors was light and graceful to a degree, the flowers and foliage of Sunrise harmonising perfectly.

SWEET PEAS.

Manchester has long been in the front in Sweet Pea culture, and improvements in the flower were noted in all directions. Mr. J. DERBYSHIRE, of Hale, gaining the Silver Medal for the best collection of these flowers; and Dorothy Eckford, Hon. Mrs. Kenyon, Lord Rosebery, Coccinea, Gracie Greenwood, and several new seedlings of great merit were observed. He was also 1st for twelve distinct varieties; whilst for twenty-five varieties Mr. F. SMITH staged many admirable vases.

A grand feature of the show was 100 vases of Sweet Peas from Messrs. JONES & SONS, Shrewsbury, the Silver-gilt Medal being a somewhat inadequate reward.

Messrs. CALDWELL & SONS, Knutsford, had a charming collection of hardy herbaceous perennials, alpine, and bulbous plants; and Messrs. FILLING, of Hyde, and PATTISON, of Shrewsbury, a large display of Violas.

There was also a magnificent *Lilium auratum* from Mr. J. W. WILLIAMSON, of Stretford, a model of good cultivation.

There was a fashionable attendance throughout the day, and an admirable military band provided the outdoor attraction. *Orchid*.

SOCIÉTÉ FRANÇAISE D'HORTICULTURE DE LONDRES.

JULY 11.—On Saturday afternoon last the members of this Society richly enjoyed a visit to the famous vineries of Mr. Peter Kay, of Finchley. Led by their President and founder, Mr. George Schneider, and Mr. W. O. Hiehle, they journeyed from Broad Street to Church End Railway Station, where they were met by Mr. Thos. Bevan, and piloted to and through the vineries.

Many of our readers know something of the Grapes grown at Finchley, but it is interesting to record the fact that Mr. Kay has more than 20 acres of glass, and nearly all of this is devoted to the culture of the Vine. The only other crops are Tomatoes and Cucumbers, and these in comparison with the Grapes are small. Not only are Grapes the principal crop in this great area of glass, but even of Grapes, only three varieties are cultivated. These are Canon Hall Muscat (a Grape that is never seen better than at Finchley), Black Alicante, and Gros Colmar. The young Frenchmen, also others of several nationalities (including a son of the head gardener of the King of Italy), and a few English friends, inspected most of the houses, and noted the excellent appearance of the Vines, from the Muscats already ripe to the latest batch of Gros Colmar for sale next winter.

Another very interesting feature at Finchley is the system adopted for preserving the water supply. Some years ago, Mr. Kay informed the party, the water question was a very serious one. He found that it was necessary to pay the water companies from £700 to £800 a year, albeit there was an average rainfall of 25 inches. He set to work and dug out a pit, puddled the bottom of it, and converted it into a lake to contain the water which fell upon the 20 acres of glass. From the lake a supply is allowed to run into a smaller reservoir, and it is then pumped up into a water-tower, from which it has a fall over the entire nursery, there being an excellent supply in every house, and pipes and hose wherewith to apply it. The water thus saved has proved sufficient for the needs of the place, and there is the additional advantage to that of economy, in that the plants are afforded nothing but rain-water.

After attention had been given to these and other object-lessons, Mr. and Mrs. KAY entertained the company of about fifty persons upon the lawn adjoining the residence, and a very pleasant time indeed was spent. President Loubet's visit to London having just terminated, this cordial hospitality to a Society of Frenchmen in London seemed doubly appropriate. Mrs. Kay, in French, proposed the health of the President; and Mr. Schneider, in English, that of the King; then were sung the National Anthems of both countries. Mr. Kay toasted the Society, and Mr. Schneider gave some particulars of the useful work the Society is doing in bringing together in social intercourse young Frenchmen who come to this country and remain for a year, or perhaps two years. There were many other speeches made, including one of much interest by Mr. HUNT, formerly Secretary of the Wellington Horticultural Society in New Zealand, who described the conditions under which land may be obtained in that colony.

It may be hoped that other proprietors of such establishments may invite the Society to spend a Saturday afternoon with them; the privilege will be greatly appreciated. The company dispersed with feelings of gratitude to Mr. Kay for his kindness, and many will remember for some time to come the home-made Grape-wine he offered them. English Grape-wine evidently is made at Finchley as well as at Cardiff, but in the former case the Grapes used are produced in glasshouses, whilst those at Cardiff are from out-of-door vineyards.

THE REVIVAL OF THE CO-OPERATIVE FLOWER SHOW.

It will be in the remembrance of many that a series of extensive flower shows was organised and carried out for a number of years at the Crystal Palace by the Agricultural and Horticultural Association. The series came to an end in 1901, owing to the discontinuance by the railway companies of the cheap travelling facilities offered to those attending the Festival, which also operated materially to diminish the number of entries from members of provincial co-operative societies. Probably there were very few exhibitions held about the country on which so much human interest centred as in the case of this particular one. Last year the Executive of the Festival organised a small flower-show; this year operations in this direction were considerably extended, with the result that a schedule of prizes of some eighty-two classes was issued, and they were divided into three sections of about an equal number of classes.

The classes were, on the whole, easy, and of plants, zonal Pelargoniums, Ferns, Coleus, Fuchsias, and Petunias some very fine specimens were staged, Musks, Harrison's in particular, being finely developed. Of annuals in pots, the most effective were Lavateras, Convolvulus minor, Schizanthus, Mignonette, Calliopis coronata, and Phlox Drummondii. Cut flowers were represented by some of the best things in bloom in the open ground just now; there were very good Sweet Peas, and, considering the season, very good Roses in a few cases, the common fault evidently being to cut them too old. Fruit was fairly well shown, and there were some very good vegetables; but in every section the average was satisfactory.

A large collection of cut flowers in great variety was sent as a miscellaneous exhibit by Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, to which a Certificate of Merit was awarded; and the same award fell to SMITH'S Nursery, Crown Hill, Upper Norwood, who had a similar exhibition; and also to a collection of interesting Cacti, from some person whose name did not transpire.

A few Sweet Peas, of pale flesh-colour, bearing four flowers on a stem in seventy-five cases out of a hundred, and named Gladys Unwin, was shown by Mr. J. UNWIN, Histon, Cambridgeshire.

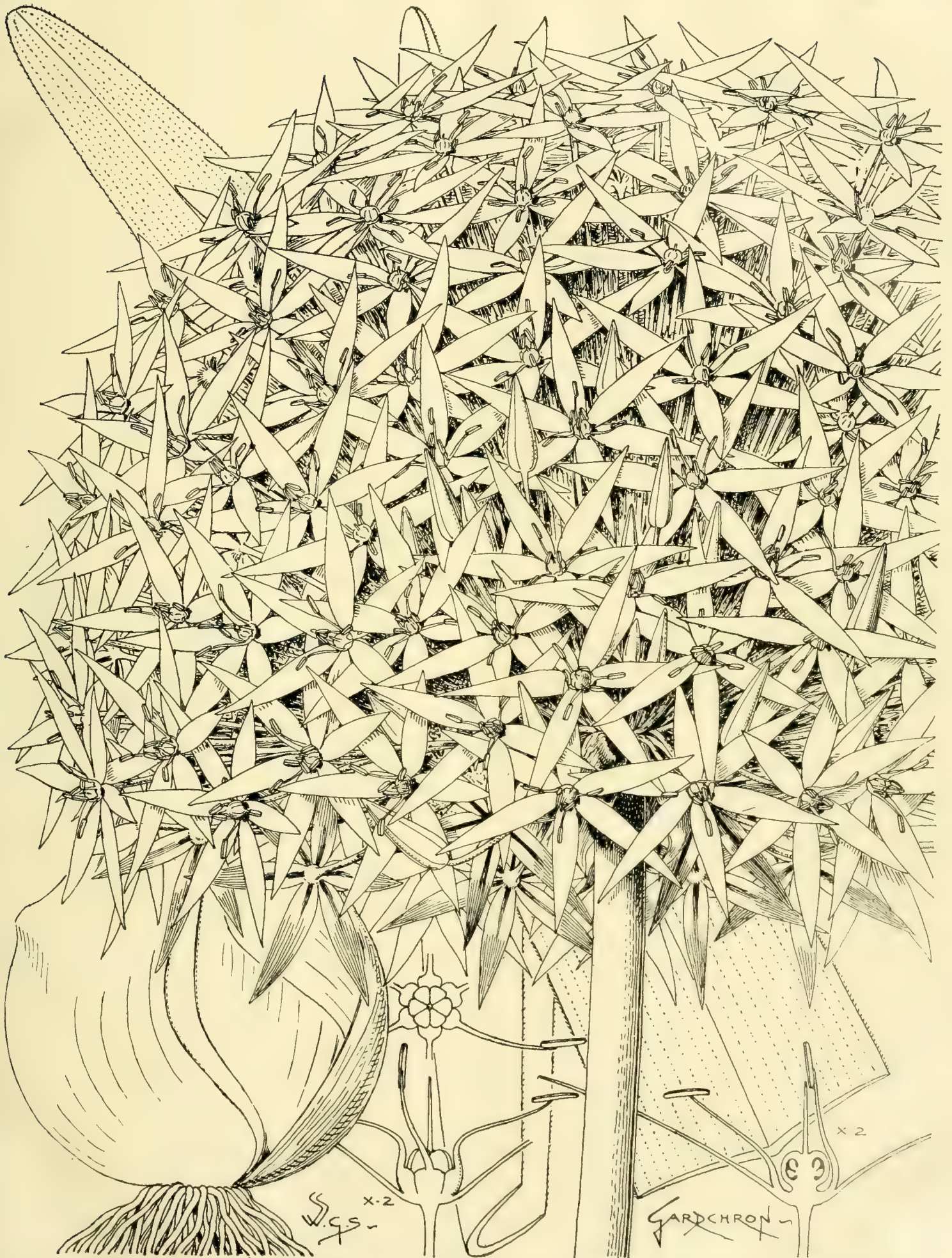
It is intended to materially increase the schedule of prizes for next year.

DANGER TO ANIMALS FROM POISONOUS SPRAYS.

In the *Pharmaceutical Journal* for April 11 last, Mr. HENRY JOHNSON directed attention to the danger to animal life arising from the use of arsenical weed-killers and similar preparations. Subsequently the *Morning Post* expressed the hope that the question might soon be definitely settled whether wild animals would eat foliage after it had been sprayed with poisons, and whether the fact of their doing so would be injurious. In an editorial note which appeared in the *Journal* for April 25, at p. 600, it was stated that the answer was self-evident, but it was suggested that chemists and druggists residing in the country should collect evidence in support of the contention that the use of poisonous sprays does constitute a danger to animal life. So far, the chemists and druggists of the country have not forwarded any information to "headquarters" on the point, but conclusive evidence has been supplied by Vice-Consul A. W. W. WOODHOUSE (Nicolaieff), who, in a report dealing chiefly with agriculture in South Russia, writes as follows:—"Locusts are again appearing in large numbers. Successful attempts were made by an entomologist last June to poison some fields by sprinkling them with a solution of 1 lb. of Paris-green to 15 gallons of water. The larvae, which were in the second and third stages at the time, were nearly all found dead by the evening of the third day. Care must be taken to keep sheep and cattle from such poisoned fields, as on the occasion in question some stray animals were poisoned a week after the experiment. . . . The Siberian marmot still requires attention, as although its numbers have been sensibly reduced by poisons and traps, it continues to occupy a prominent position among the farmers' enemies. The poison used is arsenic, with which grain is treated and dropped into the marmot holes. The trapping process is the better one, as useful birds are not endangered thereby; it is enforced by the rural administration." *The Pharmaceutical Journal*, July 11, 1903.

ANSWERS TO CORRESPONDENTS.

- ACER VARIEGATED:** *W. L.* There are two reasons for the production of green leaves—1, the green leaves may come from the stock on which the variegated form has been budded; 2, the variegated leaves frequently revert to the normal green condition.
- APPLE:** *Mr. Henderson.* The variety is Sturmer Pippin, well grown and finished, which in a great measure accounts for the good condition in which it has kept till this date. It would be interesting to know the conditions under which the fruit has been kept. We cannot say much for the flavour. If there were no good foreign Apples in the market perhaps these would be acceptable. The fruit sent might do for culinary purposes.
- ARBRE D'AMOUR:** What tree is meant by this name? *C.* [The Judas tree, *Cercis siliquastrum*, is sometimes called the "Love Tree" in England. *Ed. J.*]
- A WEEDY LAWN:** *F. B. D. G.*—Not much may be done at this season, but you might spud out, that is, lift with a clawed spud all the Thistles, Ranunculus (Buttercups), Dandelions, Plantains, and deep-rooted plants generally, filling in the holes left by the withdrawals with heavy loam, putting a pinch of grass seed of good quality on each, and beating it into the surface with the back of a spade. If there are many Daisies, these ought to be drawn out where most numerous sprinkling loam over the patches. Encourage the growth of the grasses by occasionally applying "Watson's Lawn Sand." If there is not much improvement noticed by the autumn, it will be advisable to manure and dig the soil one spit deep, and sow the best lawn grasses then or in early spring.
- BAMBOOS, BEST TIME FOR SHIFTING:** *M.* We have found early May the best time to shift Bamboos (Metaké included). The point is to do it just when there are indications of new growth, not before. They very often shrivel and look badly afterwards, especially if a dry spell sets in; but we have never found that the underground part of the plant suffers, and towards the end of the summer the upper part gets furnished. If you take off side-pieces with very little root the business is more risky, and in that case it is best to pot up the rhizomes and establish in heat. After transplanting they should be kept watered, and if possible syringed in dry weather. *W. J. B.*
- CAMPANULATE FOXGLOVES:** *P. J. R.* A very frequent occurrence, and referred to in this column as recently as last week.
- CHERRIES DROPPING:** *X. Y. Z.* The flowers were not properly set owing to cold and ungenial weather—only too common this year. It is not a disease.
- CHRYSANTHEMUM LEAVES:** *P. J. P.* The caterpillars had escaped; syringe the plants with Quassia-water.
- CUCUMBER GOING OFF:** *Pasque.* Material sent quite insufficient.
- CUCUMBER PLANTS GOING OFF:** *C. J. D.* The material sent is insufficient, and you should send large pieces of the bine, full-grown leaves, and a few main roots, and sample of the soil the plants are growing in.
- CYTHOMANDRA BETACEA:** *Damman & Co.*—A bunch of the fruits was figured in the *Gardeners' Chronicle* for March 19, 1887, p. 383, and a tree growing in the Temperate house, Royal Gardens, Kew, in the issue for Feb. 18, 1899, p. 105.
- GLOXINIA:** *J. W. F.* The variety of which you send a specimen was formerly common. It is due to an outgrowth from the normal corolla.
- GRAPES:** *Lady E.* The spot disease all too common. It is due to a fungus called *Glaeosporium*. Burn all the affected berries so far as possible. Try spraying with a 10 to 15 per cent. solution of sulphate of iron in the winter, before the leaves expand. Bordeaux Mixture might be used as a preventative in the same way. Take care not to use it when the leaves begin to expand, unless very weak.
- LATIN MOTTO:** *W. H. A.* The words *Prosunt gentibus artes* may be translated "The arts are beneficial to the nations."
- MELON:** *P. B.* You have not read your *Gardeners' Chronicle* attentively, or you would know how terribly prevalent this disease is. You can do nothing in the way of cure now, but you may prevent it by turning out the soil and burning the diseased plants. Do not plant again in the same pit. The Grapes have probably split from excess of water and lack of ventilation, perhaps from the excessive rainfall lately.
- MICE AND VOLES:** *J. W. K.* Do not use poison against the creatures, or dogs, cats, poultry, pheasants, &c., may be killed by it; but keep a cat or two, and make use of traps constantly. If you are living in the country do not kill owls, hawks, and carrion crows, and only destroy stoats and weasels if you keep fowls.
- NAMES OF PLANTS:** *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*H. J. Tuppen.* *Eucalyptus globulus.*—*F. W.* We cannot name varieties of Roses; your specimen had fallen to pieces.—*A. B. R.* 1, *Thalictrum minus*; 2, *Calycanthus occidentalis*; 3, *Saponaria vaccaria*; 4, *Sedum Ewersii*; 5, *S. spurium*; 6, *Lamium purpureum*; 7, *Lychnis* sps.—*A. W.* 1, *Erigeron philadelphicus*; 2, *Hieracium aurantiacum*; 3, *Chenopodium bonus Henricus*. The Currants and Cherry specimens shall be examined.—*R. M.* The Begonia leaves are disfigured by mites (*Tarsonymus*); dip them into tobacco-water.—*Correspondent (red card-board box without name).* *Bignonia speciosa* and seed-vessel; *Habenaria bifolia*; *Pernettya mucronata*.—*W. S.* 1, *Ginkgo biloba* (Maidenhair tree); 2, *Fraxinus excelsior*, golden-leaved variety; 3, *Hieracium aurantiacum*; 4, *Stenactis speciosa*; 5, *Pyrethrum parthenium*, double white; 6, *Tradescantia virginica*.—*C. P.* *Polygonum convolvulus*, a troublesome weed.—*E. M. B.* 1, *Phoenix dactylifera*; 2, *Adiantum cuneatum*; 3, *Adiantum hispidulum*; 4, *Gymnogramma ochracea*; 5, *Pteris tremula*; 6, *Dracæna intermedia*.—*F. H.* 1, *Rosa Blairii*, n. 2; 2, *Cupressus funebris* in juvenile stage; 3, *Trachelium cœruleum*; 4, *Statice Armeria*; 5, *Anthericum lineare variegatum*; 6, The yellow flower, *Celsia cretica*.—*No name.* *Stanhopea Devonensis*; two garden varieties of *Begonia sub-peltata*; *Saxifraga umbrosa serratifolia*, and *Lilium Thunbergianum elegans*. Why not number the specimens?—*H. S.* Yes, your *Clerodendron* has a fungus on it. You must please remember that it is no part of our duty to name plants for you, though we are desirous to oblige so far as we can consistently with our proper work. Considering that you send no fewer than eighteen specimens, instead of six only, we think you should send us a small contribution for the *Gardeners' Orphan Fund*. 1, *Centaurea montana*; 2, *Alstroemeria aurea*; 3, *Deutzia crenata*, double; 4, *Pseudotsuga Douglasi*, the Douglas Fir; 5, *Hedera Roegneriana*; 6, *Hedera helix digitata*; 7, *Colutea arborescens*; 8, *Spiræa Douglasi*; 9, not recognised; 10, *Lychnis chaledonica*, double flowers; 11, *Aubretia deltoidea*; 12, *Phlox frondosa*; 13, *Phlox divaricata*; 14, *Linaria reticulata*; 15, *Thalictrum flavum*; 16, *Stenactis speciosa*; 17, *Helenium autumnale*; 18, *Rudbeckia* sp.—*Oliver.* *Buddleia variabilis*; *Veronica Traversii*.—*N. F. P.* *Spiræa trilobata*; *Saxifraga* gum, so far as we can tell without flowers.—*G. H. S.* 1, *Sonchus* sp. probably—no flower left; 2, *Senecio Hodgsoni*; 3, *Galega orientalis*; 4, *Lathyrus sylvestris*; 5, *Senecio sibirica*; 6, *Centaurea macrocephala*; 7, *Stachys (Betonica) grandiflora*; 8, *Silene Armeria*; 9, *Sanguisorba* sp.—*R. S. Q.* 1, *Genista alata*; 2, *Acæna novæ zelandiæ*; 3, *Viola cornuta*; 4, *Silene*, withered; 5, *Dianthus cæsius*; 6, *Sanguisorba*; 7, *Acæna*; 8, *Arabis lucida variegata*.—*A. F.* *Pyrethrum parthenium*, double-flowered variety.—*J. M.* *Trachelium cœruleum*.—*Miss C.* *Allium moly*.—*W. B.* sends 3s. for *Gardeners' Orphan Fund*, which we acknowledge with thanks. 1, *Anacyclus radiatus*; 2, *Pelargonium quercifolium*; 3, a *Linaria*; 4, *Leptospermum lævigatum*; 5, *Erigeron philadelphicus*; 6, *Aster alpinus*, white
- variety. The specimens were much withered when received. If you will send better specimens, we will try to make better guesses.—*C. G.* *Gladiolus communis*.—*R. B. G.* *Lathyrus magellanicus*.
- NURSERYMEN AT CAPE TOWN:** *Constant Reader.* Chas. Ayres, R. Johnson, Rondebosch, and R. Templeman.
- ONIONS DISEASED:** *Anxious, Boston.* Onion mildew. Destroy all affected plants, and do not sow on land once affected.
- PEACHES DROPPING:** *A. C. D.* The fruits sent for inspection have the stone split, allowing moisture to enter and set up decay in the kernel. This splitting may have been caused by some check, such as abundance of water afforded the border after a long period of drought will cause. It often happens that the gardener allows the soil to get unduly dry during the winter and early spring, and then affords a deluge. The soil should be kept moderately moist at those seasons.
- PLANTS OF PTERIS, CALANTHE, CATTLEYA, ASPARAGUS, DOING BADLY:** *E. P. C., Chester.* The various plants are suffering from being grown under unsuitable conditions. The Orchid pseudo-bulb and leaf is *Maxillaria rufescens*.
- PORTABLE CENTRAL STAGING FOR A GLASS-HOUSE:** *Reader.* The sort of staging most convenient for removal should be made in sections 10 feet long and 3 feet broad, and as supports to have trestles made with four legs each, and of the required height. The sections of the staging may readily be kept in position by having cross-pieces 2 inches deep nailed on to them about 2 inches from the ends, and the top of each trestle made 4 inches in width to serve as bearings. Dowls may be let into the latter, and holes to correspond cut out with the centre-bit on the under side of the staging. Let the staging be made of red deal, primed with red-lead paint, and painted twice with white lead. The trestles may be made of the same kind of wood, or any hard wood, and should be painted of some neutral tint, so as to be as little conspicuous as possible. Any country carpenter would furnish an estimate.
- POTATO:** *Ed. W.* We are unable to name the tuber.
- POTATOS:** *J. T. S.* We can see nothing to account for the buds remaining dormant. It is due to some "idiosyncrasy" in the particular tuber which we cannot account for.
- RED CURRANT LEAVES AND MORELLO CHERRIES FALLING:** *A. W.* *Septoria ribis* is injuring the Red Currant-leaves, and *Gnomonia erythrostoma* has killed the Cherry-leaves. The surest remedy is to remove all dead and injured leaves in both cases, and burn them. Thoroughly drench the trees during the early spring, before the buds begin to swell, with a solution containing 1 lb. of sulphate of iron in 5 gallons of water. *G. M.*
- REFRIGERATING ESTABLISHMENT:** *M. F.* We suppose you refer to a description of the cold room at Messrs. Thomas Rochford & Sons' nurseries, which was published in the *Gardeners' Chronicle* for Nov. 3, 1900.
- SUPPOSED MEALY-BUG ON IVY:** *F. W. Church.* The insect is *Lichtensia viburni*, a species of *Coccid* allied to the brown scales of the genus *Coccanium*. It is an extremely local insect in this country, feeding exclusively on Ivy and *Laurustinus*, but it does not cause any appreciable harm to its food-plants. The female is naked up to the time of egg-laying, when she covers her body with a thick sac of white wax, in which she lays her eggs, and dies.
- COMMUNICATIONS RECEIVED.**—*J. D. C.*—*H. Boshier*—*W. H.*—*F. W. B.*—*W. E. G.*—*W. W.*—*J. R. J.*—*Royal Gardens, Kew.*—*J. K.*—*A. J. Cook.*—*J. Snell.*—*J. T. S.*—*A. B.*—*S. C.*—*R. J. L.*—*W. E. M.*—*E. C. Lloyd.*—*J. B.*—*C. Jones.*—*L. W. C.*—*London County Council.*—*A. D.*—*E. K.*—*H. H. D'Ombraim.*—*G. O.*—*E. J.*—*Ed. M.*—*W. A. C.*—*Maurice & Co.*—*S. D. & Co.*—*Dicksons.*—*M. Kromar.*



ALLIUM ALBOPILOSUM (C. H. Wright): FLOWERS DEEP LILAC. FROM MESSRS. VAN TUBERGEN.

THE

Gardeners' Chronicle

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ROSES AT THE ANTIPODES.

IT has been sometimes said as a matter of approach that we are very insular, and carry our customs and ideas and habits of thought with us wherever we go; but the world is much smaller than it used to be, and sons and daughters of the Old Country are now to be found in large numbers in Australia and New Zealand, and it is no uncommon thing to hear of them taking a trip home without much thought of its difficulties and dangers, where formerly it was a question of a six months' voyage, which was never contemplated without a shudder. Amongst those things which we have carried with us to the Colonies has been our love of flowers—a love which has greatly increased within the last few decades; and surely it is a very happy thing that we can point to this as a very strong proof of the unity of the Empire! I myself have many relations in the Antipodes—my only surviving brother lives in Australia. He is a devoted student of Nature, and in his home at Melbourne he has a small zoological garden; and some of his children have in them that love of flowers which has been so great a pleasure and comfort to those of their relations who have stayed in the Old

Country. One of my nieces from time to time sends me a paper showing what they are doing with regard to the culture of the Rose, and has lately forwarded me one containing an account of a plebiscite which has been held at Melbourne, in which it has endeavoured to inform lovers of the Rose in the colony, and who have been engaged in its culture, what they consider the best Roses to grow; and it is interesting to notice the agreements and disagreements between such a list and that which the National Rose Society has given as the best Roses to grow in our own country.

Climate has, of course, a great deal to do with this, and we see some Roses assuming a topmost rank which we should not assign to them here at home; not that we differ from them as to the value of the Roses, but simply because in our climate we cannot manage them. Take one notable example. In their selection of the best twelve, Cloth of Gold takes its place. Now I suppose that there is not a grower in this country who would not like to include this in his list, but that he knows that his doing so would be but a fraud on his fellow-rosarians. There are only a few places where it can be grown successfully; but in the bright climate of Australia, where it has not to encounter such enemies as frost and snow, I can well understand that this, the finest of all yellow Roses, occupies a prominent place. Yet perhaps there are some places where it might be tried even here, only that people are afraid of its uncertainty.

The National Rose Society has been the means of forging a link between the Mother Country and her daughters. Affiliated societies have been formed both in Australia and New Zealand, and both the Gold and Silver Medals have been competed for and awarded in those colonies.

In dealing with the list furnished by the Melbourne Society it is well to bear in mind that it does not confine itself to exhibition flowers. We are told that the correspondents were asked to consider the Roses asked for as those which could be recommended for their all-round gardening qualities of hardiness, freedom of blooming, variety of shape and colour, and habit of growth, and hence the list which has been selected by the very numerous growers must not be taken up as a guide to us here at home, and which will be seen at once when I give the names of those selected. Besides Cloth of Gold already mentioned, there are La France, Maman Cochet, White Maman Cochet, Maréchal Niel, Devoniensis, Bouton d'Or, William Allen Richardson, Reine Marie Henriette, Prince Camille de Rohan, Safrano, and Bridesmaid. Bouton d'Or, a Rose of which we know little in this country, seems to find favour there; with us it is too full, so that it is very difficult to get it to open, although in the hotter climate of Lyons, where it was raised by J. B. Guillot in 1867, it is a very charming Rose; and so in the warmer climate of Australia it is no wonder it is found as a favourite. Again, that grand Rose, Maréchal Niel, is hardly suitable for out-of-door cultivation at home, except in the warmer parts of our isle, and therefore we do not wonder at the high place it takes among Australian cultivators; again, it is interesting to find that some of our best exhibition Roses are contained in the list of twelve furnished by the Society

of Melbourne, where we find Mrs. John Laing, Maman Cochet, White Maman Cochet, Prince Camille de Rohan, and Bridesmaid, one of the numerous sports from Catherine Mermet. Again, William Allen Richardson, that universal favourite, is put down among the twelve best Roses, not, be it remembered, as exhibition, but as best all-round Roses. I should almost expect to find Crimson Rambler contained in the list, but it is not included.

Accompanying this list there are some very sound and practical observations on culture, and it is evident that the multiplication of Roses by cuttings, which has never taken a very deep hold of our home Rose growers, is followed in Australia with a good deal of keenness; and of course the climate, without the rigours of our winters, is favourable for this method of culture. And I think we may bid all our fellow-rosarians in Australia to go on earnestly in the culture of our favourite, and hope that they may furnish us from time to time with some account of their progress.

Wild Rose.

NEW OR NOTEWORTHY PLANTS.

CRINUM LUGARDÆ, N. E. BROWN (n. sp.).

THIS new Crinum is a very distinct one, characterised by its comparatively small bulb and long, narrow, deeply channelled green (not glaucous) leaves, rough along the margins. It was discovered on the Kwebe Hills, near Lake Ngami, in the dry interior of Southern Africa, by Mrs. E. J. Lugard, who presented a bulb to the Royal Gardens, Kew, where it has recently flowered. A coloured drawing of it, however, has long been in the Kew collection, made by Mr. T. Baines at Koobies (Kobis), which is also in the region of Lake Ngami. Its nearest ally appears to be *C. Rautenianum*, Schinz, but it differs in having smaller flowers and a smaller bulb, which latter, according to a note on Mrs. Lugard's label accompanying a dried specimen, only attains to about "6 inches in circumference."

The following are its specific characteristics:—Bulb small, $1\frac{1}{2}$ to 2 inches in diameter, ovoid, with a neck 2 to 3 inches long. Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ feet long, $\frac{1}{4}$ to $\frac{3}{4}$ inch broad, linear, acute, deeply concave, channelled down the face, minutely scabrous along the margins, otherwise glabrous, deep green, not at all glaucous. Scape 4 to 12 inches long, erect, slightly compressed, two to six-flowered. Bracts $1\frac{1}{4}$ to 3 inches long, the outer $\frac{1}{2}$ to $\frac{3}{4}$ inch broad, oblong-lanceolate, acute, with inrolled margins, the inner linear or linear-filiform. Pedicels almost none or up to $\frac{1}{2}$ inch long. Ovary ellipsoid, $\frac{1}{2}$ to $\frac{1}{3}$ inch long. Perianth-tube $3\frac{1}{4}$ to 4 inches long, slender, cylindric, curved, gradually (or according to a drawing, abruptly) passing into the funnel-shaped limb, green; segments 3 to $3\frac{1}{2}$ inches long, 6 to 10 lines broad, lanceolate, revolute at the tips, white, with a rather light pink median stripe, and a thickened green apical point. N. E. Brown.

CHINA.

THE rich collection of specimens acquired in China by Mr. E. H. Wilson, on behalf of Messrs. James Veitch & Son, will be remembered with great interest by all those who had the opportunity of seeing them in the spring of the present year at the Royal Horticultural Society. The publication of new species in the *Botanical Magazine* and in our own columns will have also attracted the attention of plant-lovers. So successful was Mr. Wilson in his collection and transmission of valuable and interesting plants

that he was again despatched to Central China and it is confidently to be expected that the diligence and skill of the collector, no less than the intelligence and enterprise of his employers, will be rewarded by the introduction of yet more wonders and novelties. What collectors have to go through may be illustrated by the following extract from a letter of Mr. E. H. Wilson just received, for which we are indebted to the courtesy of Messrs. Veitch.

"Chungking.

"I have much pleasure in reporting my safe arrival at the above city. I left Ichang on the evening of April 24, and arrived here on the afternoon of the 21st inst. The voyage, though long and tedious, was free from any serious accident to ourselves or boat. We had one man drowned and several injured from falls, but this is only the usual thing. No part of the river above Ichang is free from danger, and some of the rapids are frightful. My boat's crew consisted of twenty-four men—seven on the boat, and seventeen ashore to pull her along. At all the rapids extra men are engaged; at the worst rapid, the Yeh Tan, it took nearly a hundred men to haul my boat over (large cargo boats employ 200 and upwards). At this rapid, where we lay for the best part of a day, I watched ten boats hauled over; of these ten, three were wrecked. The first was a total wreck, and sank almost immediately; I could not see how many men went down in her. The second had a hole knocked in her bottom, and was with difficulty beached. The third lost her rudder. We had eleventh turn, and got over safely.

"Immediately we were over, a small boat with five men in attempted to cross, capsized, and two of the five were drowned. Boats are wrecked and life lost every day at this river, and the people maintain a calm indifference. Life is cheap in this part of the world! Small red boats are stationed at the foot of all the bad rapids. The duty of these boats is to save all life they can, pick up all bodies, enclose in and bury them. It is a splendid service—the best philanthropic institution I know of in China. I botanised whenever I could get ashore *en route*, but saw nothing fresh of horticultural value, and very little new to me botanically."

BULB GARDEN.

LILIES.

MR. WILLIAMSON, on p. 14 of the *Gardeners' Chronicle* for July 11, speaks of a finely-developed *Lilium auratum* that is giving three stems and a large array of buds. Your correspondent obviously would prefer a smaller number possessed of normal quality, as the hint of a reduced number distinctly implies. Indeed, these fasciated forms are not usually beautiful, rather do they but minimise the greater beauty of that grand hill Lily of Japan to which Mr. Williamson refers. Writing of this species in particular, one's thoughts revert to the superb central group of *Lilium auratum platyphyllum* (Shirley variety) included in the Messrs. Wallace's hardy plant group at the recent Holland House Show. Passing notice was made of this finely-developed form in the report of the meeting in question (see *Gardeners' Chronicle*, June 27, p. 421). In all its forms *L. a. platyphyllum* is really a superb Lily, and the one in question a veritable prince even among them. To give a better general idea of the plant in question, we may say the flower is virtually that of *L. a. virginale*, though more widely spread perhaps, and more massive and imposing generally. If we touch on the stature of the variety, we have none save the variety *platyphyllum* with which to compare it, and indeed it is just a fine form of this with a flower of great purity. Happily in the *platyphyllums*,

as a rule, we have vigour greatly superior to the typical *auratums*, and markedly so when we come to compare the permanent characteristics of the two. And it is just this desirable point that distinguishes the Shirley variety. Not only was there exhibited a plant 6 feet or more in height, but there was good leafage nearly to the rim of the pot. Good roots at the base of the stem account for the extra vigour of these plants, and that is the key to the whole matter. Perhaps the most important information imparted at Holland House Show was that the entire stock of bulbs have been raised from a single bulb purchased a dozen years ago.

Speaking of Lilies in general, it is worthy of mention that many fine groups may now be seen at Kew in the border, sandwiched between the rock garden and the herb ground. Indeed one or two species, *L. candidum* and *L. testaceum*, are very good. Of each many groups may be found in the border, and in one or two of *L. testaceum* I counted the other day from a dozen to fifteen stems of about 6 feet in height, and bearing eight or nine flowers each. *L. candidum*, too, was very fine.

L. testaceum is extremely strong and vigorous, the rather dark-coloured stems well furnished with foliage, and the plants comparatively free from disease. The plant will usually succeed in rather heavy loam, and this, if of good quality, is preferable to soils that require constant additions of manure. E. H. Jenkins.

CONTINUOUS CROPPING OF LAND WITH ONE KIND OF PLANT.

I was asked the other day if it was credible that Strawberries could be cultivated continuously with the same plants on the same ground during a period of sixty years and still yield profitable crops. I have no doubt it is credible, though the oldest quarters of Strawberries I have known extended not greatly beyond forty years, one instance being in a market and another in a private garden.

The above question suggested if it is in every case wise to act too indiscriminately on the modern principle of changing crops from one part of the garden to another at intervals of short duration. Much must, of course, depend on the nature of the soil. In the instances just referred to, the soil in both cases was a strong loam; and though the practice of digging between rows of Strawberries has been repeatedly condemned as barbarous and ineffective, it did not prove so in these cases. On the contrary, I have no doubt it was distinctly beneficial, the process of digging being equivalent to a rough-and-ready annual pruning of the roots, and also acting on the soil mechanically and perhaps manurally.

Another curious instance of successful one-vegetable cropping within my own knowledge was the annual production of prize Onions on the same plot of ground.

Less striking is another case of which I am cognisant, in which Celery has occupied the same ground, the same trenches indeed, for the last thirty years, but extending beyond that time perhaps indefinitely. Celery-trenches are so heavy that the conditions are more favourable than in the case of either the Onion or the Strawberry, but not so much so as to detract from its being somewhat remarkable.

In another garden I can trace back during quite forty years a custom of producing Sweet Peas annually on exactly the same lines or rows; how much longer than that time it would be hard to guess, but at least twenty years. In the same garden, early Peas were always grown on the same bit of border, and always successfully.

In my own experience, the most striking example of continuous cropping I am able to cite is

in connection with the Brussels Sprout. On the light, heavily-manured soil here, Sprouts always proved unsatisfactory, producing "bulbs" large enough to satisfy the most exacting lover of mere size, but, alas, so little compact that they were not appreciated in the dining-room. Finding that one particular spot yielded firmer and less bulky sprouts, the crop was grown annually thereon during a space of fifteen years, no change whatever being affected in the way of cultivation, the plants of one year being set in the furrows made in earthing those of the year previous, not infrequently the aid of a crowbar being required to make holes for the roots, as has occurred the present season. Alterations necessitated the shifting of the crop about eight or nine years ago, since when it has been produced on another piece of ground under like conditions, the soil meanwhile having been undug and unmanured.

During many years Tomatoes, too, have been cultivated successfully in the same material. Indubitably larger fruits would result if the old material were replaced by new; but as the fruit invariably comes the right size for use, exchange would, on the whole, be of little or no benefit.

In the case of flowers, it may be interesting to remark that Narcissus have been cultivated successfully on the same ground from ten to twenty years, a portion being lifted annually for forcing and for pot-culture, and at intervals the whole of the bulbs are lifted, sorted, and replanted, the only manure employed on these occasions when the ground is re-dug being an application of superphosphate of lime. It is only right to add, however, that annual surface-dressings are applied with no niggardly hand.

It would be rash to say that all or any of the instances mentioned could be successfully adopted in other gardens. For example, I cannot depend on Sweet Peas succeeding two years in succession on the same ground. It was very earnestly desired to have a long row annually of one particular variety of these in the flower-garden; the second year there was a very perceptible decline in vigour and quality; and in the third, notwithstanding some extra trouble as to removal of soil, they were so disappointing that it was necessary to remove them and replace them with other plants. Moreover, it is true that a garden can be managed with the expenditure of less labour, and in other respects more cheaply when rotation of crops is the general rule.

My old friend of the unchanging Onion-bed was forced to undertake annually a preparatory course requiring no slight amount of labour. Rotation thoughtfully pursued saves much of that. Following Celery, for example, the trenches being levelled as the crop is lifted, ground requires merely "pointing" to fit it for the reception of Onions. If extra-sized bulbs are desiderated, an addition of manure causes a little more labour. To follow the Onion crop, Cabbages succeed well if the ground is stirred in the lines to be occupied by these plants, thorough cultivation being needed thereafter.

In connection with these remarks, it may be noted that quantities of used soil, generally fertile loam or turf in which short-lived plants have been cultivated, is sometimes equal in value with fresh soil for other plants. Soil rendered quite fibrous by the roots of Tomatoes or of Cucumbers has often been employed instead of new soil with perfectly good results. Again, if the balls of used-up Chrysanthemums or of Cinerarias, both soil-absorbing subjects, are laid up for several months, the material will be found of much utility for growing a variety of common plants. Where there is an unlimited supply of turf, it is, perhaps, unnecessary to be careful of that once used; but it is worth while knowing that such material is not without value. It, indeed, does not seem unreasonable to suppose

that the roots of other plants besides Grasses are capable of affording food to other plants; and under the conditions of supplying large quantities of artificial and other manures that exist at present, it is not wonderful that used soil is so fertile as undoubtedly it is. B.

CULTIVATION OF CARNATIONS IN THE UNITED STATES.

THE first operation in the cultivation of these plants is propagation. Healthy plants are selected for furnishing cuttings, which should not have been forced, undue warmth under glass tending to weaken the plants. The best cuttings are obtained from plants which have ceased to flower, and the most suitable season is from the beginning of November to April. Having been head propagator in a large nursery in New Jersey, I am competent to advise the following methods to be followed. Set aside a bench of about 4 feet in width, over which place bricks evenly over the crocks on the bench to prevent the soil washing out; then apply water copiously to the bricks, for if this be not done the bricks will absorb much moisture from the sand, and the cuttings will dry up. Over the bricks place a layer of clean, not very coarse sand, 3 to 3½ inches thick over the bricks, and make it level and smooth with a stick; again apply water in abundance, and beat the sand bed very hard. The bed is now ready for the cuttings, which should be of firm texture, not too large or fleshy, or too small and weak. The bench having a width of 4 feet, place thirty-five to forty cuttings in a row across it, and afford water carefully to each row. The air of the house should be kept moist at all times. I cannot give any rule for applying water, but I have kept a houseful of cuttings of late varieties for a week without water; its application is a matter of judgment.

The most suitable temperature for a cutting-house is from 56° to 60° Fahr., and if it should become warmer afford air, but not too much, for if the cold air comes in contact with the cuttings very much, they will get wilted. When the cuttings are callused, apply water copiously, affording no more till they are rooted. When rooted do not allow them to get too dry, or red spider will attack them. When well rooted, pot them up, affording shade till the roots have taken hold of the soil.

FIELD CULTURE OF CARNATIONS.

The Carnation is by no means a tender plant, and in our latitude we plant about the middle of May. When the plants are put out in the field, a small trench is made along the rows so as to take the water afforded the plants after planting.

The pinching of the leading shoots is one of the most important details in the culture of Carnations. When the plants show any long flowering shoots, they should be pinched off, but not too low down. In the first week of September, when the plants are ready to be planted in the house, they should not show a sign of a flower-bud. Before lifting the plants a good over-night watering is afforded them, and care is taken when digging them up to preserve the roots from injury, and to keep as much soil around them as possible. They are planted at distances of about 10 inches in the rows, and a space of 12 inches is left between. Care is taken to prevent planting them too deeply or stem rot may set in. The plants should be cleaned before planting, and for a time afterwards the atmosphere of the house is kept close until the roots become again active.

By taking a little clay and mixing it in water a solution is obtained to smear the glass, which helps to keep the house a little cooler than it would be otherwise. The plants are syringed occasionally, and when the roots begin to spread a little more air is afforded, which is afterwards



FIG. 19.—WAVERLEY OAKS.

increased. The soil should be renewed annually, and it should not be too rich, but it may contain about one-sixth part of good fresh cow-manure and a little bone meal.

The temperature of the Carnation-house should be 50° at night and 65° to 70° during the day. Disbudding is done about once a week, the object being to concentrate the strength of the plant into the main flower-bud. David A. Dean, Waverley, Mass., U.S.A.

WAVERLEY OAKS.

I ENCLOSE you herewith six photographs showing some of the White Oaks (*Quercus alba*), as they appear in the State reservation at Waverley (Belmont), Massachusetts. For the greater part of the following information regarding them, I am indebted to several persons who sent replies to my inquiries through the *Boston Transcript*.

Six or seven miles from Boston, in the town of Belmont, near the Waverley Station, is one of the



FIG. 20.—WAVERLEY OAKS.

Height 80 feet; circumference at 5 feet from the ground 25 feet; age 800 years.

most remarkable groups of White Oaks in New England, and perhaps in the United States. Some of the largest grow on gravel ridges, which Professor Agassiz reported as probably the terminal moraine of a local glacier. Their roots, however, feed from the rich alluvial deposits near the ridges, and some of them drink from the waters of the Beaver Brook near by.

Professor Agassiz was interested in these trees, and I am told that he estimated the age of the largest, then lying partly decayed upon the ground, to be about one thousand years. There are in all in the reservation twenty-six of these aged Oaks, the most notable, perhaps, being eight which grow along the Kame.

Figure No. 19 represents a tree which stands on the lower end of the "Kame," and which is thought to be from five to six hundred years old. Since the State has taken an interest in these trees they have all been subjected to careful and skilful treatment, with satisfactory results. The dead branches were cut off close to the trunks in such a way that the healing operation would go on with the least interruption; the wood thus exposed was covered with tar, as it also was elsewhere when not protected with healthy bark, and the cavities and cracks were all filled in with cement.

The figure marked No. 20 grows, with another, on the highest part of this ridge. The one in front is supposed to be the oldest tree remaining. It measures 25 feet in circumference at 5 feet from the ground, and 28 feet over the swell of the roots, and the height is 80 feet. The longest branch is about 70 feet long. Its estimated age is eight hundred years.

By the lower reasonable estimate all the trees figured and those adjacent must have been growing when Columbus crossed the Atlantic, and quite well grown when the Pilgrims landed.

A gentleman now nearly eighty years old, who takes a special pride in these trees, and who was born and has lived in Belmont or its neighbourhood all his life, says that neither he nor his father, whose memory carries the record back over one hundred years, ever saw a seedling White Oak start growth in the reservation. *Archibald Smith, Boston, Mass., December 18, 1902.*

MARKET GARDENING.

SOUVENIR DE LA MALMAISON CARNATIONS.

RECENTLY I observed on Messrs. Hugh Low & Co.'s stand in the flower-market, Covent Garden, a batch of the variety Churchwarden selling at 24s. per dozen, the plants being now two years old. The plants, growing in 32's, possessed three to four blooms each, besides unopened buds.

It may be of interest to Mr. Briggs to know that I have watched very closely all that pertains to the cultivation of these plants as market subjects, and also the profit side of the matter, with advantage to myself. The number of those engaged in this branch is increasing. As cut blooms I saw them sold for as much as 12s. per dozen on July 13, and even admitting that 6s. is a fair price, it is profitable business. I believe that there is more profit obtained from the older plant than from the young, although the latter produce the bigger blooms. The Guernsey growers, who send a regular supply, have done very well, obtaining as much as 10s. per dozen blooms. It is a moot-question with the smaller grower how to grow these plants at a profit, which can only be done when a specialty is made of the plants, and glass-houses built specially for them. Then, given a suitable locality, with suitable soil and good cultivation, Malmaisons are a success.

DICTAMNUS FRAXINELLA ALBA.

This is an excellent wet-weather plant. The Ash-like foliage and the erect spike of white

blooms, which are strongly scented, make *Dictamnus Fraxinella* a striking plant. The rose-coloured variety is rather difficult to propagate, except from seed, and *D. F. alba* is readily increased by division. Wet weather has no injurious effects on these plants, and I have a spike of flowers before me as I write which was cut to-day (July 19) in a heavy shower at Messrs. Wm. Cutbush & Son's Nursery at Finchley.

CISTUS LADANIFERUS.

Long introduced into this country, and a most deserving plant for pot-culture or planting in a border! The individual blooms last for only one day in hot weather, but a profusion of flower-buds is always coming on. All the Rock-roses have each their individual beauty, and in the case of this one the flowers are white with spots inside at the base of the petals. This plant is successfully grown at the Finchley Nurseries of Messrs. B. S. Williams & Son. It may be interesting to those who like the *Cistus* to know that they may be raised from seeds sown in March or April. So-called hardy varieties (*Helianthemums*) do well in certain localities as rock plants, &c., and in sunny borders; *C. ladaniferus* is safe under glass.

CAMPANULA ISOPHYLLA AND C. I. ALBA.

The former are much less common in market establishments than *C. i. alba*. Some growers afford small doses of Clay's fertiliser and Davis' manure, and they turn each plant round every few days so as to make them shapely all round. *Stephen Castle.*

CAMBRIDGE.

THE BOTANIC GARDEN.—It is a great pleasure to visit a garden which affords evidence of vitality apart from mere routine; and it is highly satisfactory to be able to see that things are done with a purpose and not in a haphazard fashion. Such are the general impressions derived from a hasty visit to the Cambridge Botanic Garden in mid-July. The surface is flat, and the general arrangement not remarkable; but when one comes to look into details and to consider what are the objects of the garden and how those objects are carried out, one can but congratulate the University on the possession of such a garden, and on their good fortune in having the services of so efficient a curator as Mr. Lynch.

The garden has on various occasions been described in our columns (see *Gardeners' Chronicle*, May 27, 1899, p. 329), so that it is not necessary to describe the comparatively new range of houses that has been erected; nor can we on this occasion specify their contents, as the time at our disposal only sufficed to gain an idea of the outdoor arrangements. It is enough to say that the range consists of a long corridor, from which project at right angles various separate span-roofed houses (the central one the larger) devoted severally to Succulents, to Ferns, Orchids, and to other plants.

In front of one of these houses the eye is at once attracted by a group of hardy *Opuntias*, of which a mass of *O. glauca* is very striking, with its huge, flat, plate-like joints now in full growth, producing numerous yellow flowers and young shoots. *O. cantabrigiensis* is almost equally fine. Other species are *O. missouriensis* in bloom, *O. arborescens*, *O. monacantha*, *O. bicolor*, &c., intermixed with such plants as *Agave utahensis*, *Cotyledon Purpusii*, *Echinocereus phoeniceus*, in flower. These hardy "xerophytes" are evidently quite at home; the soil is dry and calcareous, the exposure sunny, and the warmth and shelter afforded by the adjacent building very much to their taste. The bays between the projecting glasshouses afford warmth and shelter to a host of interesting plants which do not do so well, if at all, in the open garden. *Echeveria glauca* lives here all the winter, so do *Cæsalpinia japonica*,

Cestrum fasciculatum, *Dasyliiron Hookeri*, *Beschorneria yuccoides*, &c. *Kniphofias* like *caulescens* and *Northia*, the yellow-flowered *Eremurus Bungei* appreciate the protection, and *Hymenocallis Harrisiana* and *Ismene calanthina*, now in full bloom, could hardly do without it. *Crinum Powelli* and the white variety are in full bloom, and near them, affording a great contrast, the singular *Polygonum equisetifolium*, and the equally curious *Clematis aphylla*. *Sauromatum guttatum*, which one expects to see in a stove, is quite happy in the open air, and so is the *Puya*, a plant of which from the Scilly Isles attracted so much attention at the Temple Show. But as we have no desire to write a catalogue, we must cease to enumerate the treasures that are to be found in those sheltered bays.

Close by is the rockery, and the list of interesting plants observed on it occupies several pages of our note-book. But as it is impossible to go into detail, and a mere enumeration of names would be tiresome, we forbear to transcribe them. We must be equally reticent with the contents of the herbaceous borders. Passing along, we note beds devoted to the illustration of "xerophytes," "halophytes," "hydrophytes"—that is, of plants peculiar to or preferring to grow in dry, saline, or wet soil respectively, so that the student may have the means at hand of studying the adaptations of structure and conformation to circumstance.

Hard by is the bog-garden, where the same principle is carried out on a larger scale. Bamboos encircle this morass, which is filled with an assortment of interesting plants, among them huge masses of *Saxifraga peltata* and *Onoclea sensibilis*, *Primula rosea* and *Mimulus luteus* (thriving exceedingly), *Juncus spiralis*, which last, we were informed, reproduces its contorted form in the seedlings, and many more.

The Natural Orders are represented in irregular beds of varying size according to the number and importance of the members. This method of disposition is preferable on all accounts to the gridiron arrangement, as it allows a better idea to be formed of the importance and variety of the Order and of its affinities to neighbouring groups, while it is far more pictorial, and allows the "habit" of each plant to be more fully developed.

Here may be mentioned a curious fact that the hybrid between *Senecio squalidus* and *S. vulgaris* seeds itself, and those seeds reproduce the parental features. Who shall say then that hybrids may not be the progenitors of "new species"?

Speaking of hybrids, we are reminded of a series of hybrid *Gerberas* raised by Mr. Lynch, and from which much may be expected. In many a corner, indeed, we come across hybrids or plants grown for experimental purposes, grasses which have furnished Professor Marshall Ward with the material for his remarkable paper on the parasites of *Bromus*, or pans filled with rare Hepatics, grown to satisfy the curiosity of students and to furnish the information they are seeking. Everywhere evidences of the garden being put to uses such as befit a botanic garden, at the same time there is ample to interest and please the ordinary lover of plants and flowers, whose requirements are not so exacting as those of the research-student.

We append a few notes from the lately issued Annual Report of the garden, from which it will be seen that our hasty notes might have been largely extended:—Among the more interesting plants that have been received are *Lachnanthes tinctoria*, specially obtained through the New York Botanic Garden, a species yielding a drug supposed to be efficacious in bronchitis and tuberculosis, recently investigated by Dr. P. W. Latham (see *Chemist and Druggist*, July 12, 1902); *Mystacidium* sp. nov., contributed by Mr. Cyril Crossland, of Clare College, and

collected by him in British East Africa; *Coriaria japonica* (*Bot. Mag.*, tab. 7,509), remarkable on account of the brilliant red colour of the fruiting sepals, which give the effect of red berries; *Spiraea millefolium* (*Bot. Mag.*, tab. 7,810), a species with finely-divided foliage; *Scolopendrium vulgare* × *Asplenium ceterach*, a supposed bi-generic hybrid; *Corydalis thalictrifolia*, one of the new introductions from China; *Iris gracilipes*, a pretty species, and the only *Iris* of the section *Evansia* that, until recently, had not been introduced; *Ceropegia debilis*, a curious new species; the Wild Fig, or *Caprificus*, specially inquired for and introduced for the first time into this country (see Kerner & Oliver, *Natural History of Plants*, vol. ii., p. 160, fig. 240, p. 157); *Rodgersia pinnata* (*Bot. Mag.*, tab. 7,892); *Acanthus arboreus*, one of the finest plants of Arabia Petraea, whence it was sent by Professor Schweinfurth (*Gardeners' Chronicle*, April 5, 1902, fig. 70); *Primula megasæfolia*, an interesting addition to the genus, from Pontus, in Asia Minor; several new Chinese trees, including *Liriodendron chinense*, *Magnolia Delavayi*, *Gleditschia Delavayi*, and one or two probably new Pines, the interesting Chinese herb *Podophyllum versipelle*; *Rehmannia glutinosa*, and *Rhus vernicifera*, the latter a small Japanese tree which yields the famous lacquer used for articles of furniture and small ware.

Among new plants that have flowered, and have been or will be published from Cambridge material are *Mystacidium* sp. nov., received from Mr. Cyril Crossland, of Clare College, and collected by him in British East Africa; *Sauromatum* sp. nov.; *Streptocarpus Armitagei*; *Colchicum* sp. aff. *montanum* (to be figured in the *Botanical Magazine*); and *Gerbera* "Brilliant," a cross between *G. Jamesoni* and *G. Sir Michael*, raised by the Curator, and finer than either parent in size and colour. Other new plants that have flowered are *Pittosporum Fairchildi*, an ally of *P. crassifolium*; *Campanula sulphurea*, exceptional in the genus in the colour of the flowers; *Arisæma mirabile*, probably a variety of *A. speciosum*; *Stapelia luxurians*, an interesting example of carrion flowers; and various hybrid *Gerberas* raised by the Curator.

The Botanic Garden has assisted, by the supply of material, in an investigation by Mr. H. A. D. Jowett, D.Sc., and Mr. G. E. Potter, D.Sc., of the Wellcome Research Laboratories, Snow Hill, London, on the "Variations in the Occurrence of Salicin and Salinigrin in Different Willows and Poplar Barks." The results of the investigation have been published in the *Journal of the Pharmaceutical Society*, August 16, 1902. As the Cambridge Botanic Garden possesses a well-authenticated collection of Willows, assistance has been given also to a gentleman desirous of determining the kinds of Willow required by bat-makers, for planting on his estate.

THE BIRMINGHAM BOTANIC GARDENS.

AFTER serving faithfully and well for thirty-six years as Curator of the Birmingham Botanic Gardens, Mr. William Bradbury Latham is about to retire; and we hope that he may live for many years to enjoy the rest he has so well earned.

Mr. Latham was born at Bicknacre, near Maldon, Essex, in 1835. At the age of thirteen he commenced work in the garden of W. McNeil, Esq., Wandsworth Common, and subsequently became apprenticed for three years to the late Robert Neal, of the old Wandsworth Common Nurseries, part of which exist still.

He next entered upon employment at the Royal Gardens, Kew, where he spent a period of two years and several months. The next move was to Chatsworth, Mr. Latham being desirous of studying for a time under the late Sir Joseph

Paxton, who subsequently interested himself to get Mr. Latham into the Jardin des Plantes, Paris, where M. Neumann was then the curator. Returning from Paris, Mr. Latham spent six months in the Holloway nurseries of Messrs. Parker & Williams, and left this establishment



MR. WILLIAM BRADBURY LATHAM,
Retiring Curator of the Birmingham Botanic Gardens.

to become head gardener to Lieut.-Col. Perkins, Birtley Hall, Chester-le-Street, Durham. At this place Mr. Latham had charge for eight years of one of the finest collections of Orchids and stove and greenhouse plants in the North of England.

In December, 1867, Mr. Catlin, Curator of the Birmingham Botanical and Horticultural Society's garden, retired after twenty-one years' service, and Mr. Latham was selected to succeed him.



MR. THOMAS HUMPHREYS,
Newly-appointed Curator of the Birmingham Botanic Gardens.

One of the first things the new Curator had to do under instructions from the Committee of the garden was to destroy one of the best collections of *Crataegus* and other Rosaceous trees and shrubs in the United Kingdom, for the purpose of making an archery ground. Mr. Latham deeply regretted this; but in other directions he quickly increased the collection of plants, two new glass-houses were built, and later the large and hand-

some conservatory was erected. Other improvements being needed, an appeal was raised for funds (£4,000 was obtained), and in 1885 a large portion of the old structure was pulled down and an extensive block of new glasshouses built.

Mr. Latham, in 1862, raised a hybrid *Dicksonia* from *D. arborescens* (St. Helena) and *D. antarctica* (Australia). *D. Lathamii* is now a splendid plant, as is also a hybrid Fern raised by Mr. Latham from *Cyathea insignis* and *Alsophila excelsa*. Mr. Latham was presented with a Veitch Memorial Medal by the trustees of the Veitch Memorial Fund, at a meeting of the Royal Horticultural Society on May 7, 1901.

An account of the history of the garden and a description of its contents in 1893, by Mr. F. W. Burbidge, was published in the *Gardeners' Chronicle* for December 9, 1893, and a supplementary illustration to the same issue afforded a view of the Tree Ferns growing in the new conservatory. Soon after the establishment of the garden Messrs. Knowles & Westcott published *The Birmingham Botanic Garden, or Midland Floral Magazine*; and this was succeeded by *The Floral Cabinet and Magazine of Exotic Botany*, of which three volumes were published, illustrated with nearly 200 coloured plates and some wood engravings.

THE NEW CURATOR.

We have great pleasure in publishing a portrait of the newly-appointed Curator, Mr. Thomas Humphreys, the well-known and universally esteemed Assistant-Superintendent of the Royal Horticultural Society's gardens at Chiswick. Mr. Humphreys commenced his gardening career at Chester, in his native county, and served for five years in the nurseries of Messrs. Jas. Dickson & Sons, Newton Nurseries. Owing to the knowledge of hardy trees and shrubs obtained in these celebrated tree nurseries, Mr. Humphreys was recommended to the Royal Gardens, Kew, in 1887, to take charge of the propagating department of the arboretum. Those best acquainted with the magnificent collection existing at Kew may imagine the opportunities that presented themselves in the propagating department of the arboretum for acquiring a perfect knowledge of this interesting section of plants, the use or misuse of which affects almost permanently our gardens and landscapes.

Mr. Humphreys left Kew in 1892, and became Assistant-Superintendent in the Chiswick Gardens. This was three years before the retirement of Mr. A. F. Barron, for whom Mr. Humphreys entertained great respect. He has since co-operated loyally with the present superintendent, Mr. S. T. Wright, in carrying out the work of the gardens, and of the meetings and shows at the Drill Hall, Temple Gardens, Crystal Palace, and Holland House. Mr. Humphreys has also acted in the capacity of secretary to the Floral Committee for the past nine years.

The experience gained at Chester, at Kew, and at Chiswick in working up stock of different species of indoor and outdoor plants will greatly help Mr. Humphreys in his new position, whilst his intimate experience in the promotion and management of the Royal Horticultural Society's shows will be scarcely less valuable.

Mr. Humphreys's task will not be a light one. There exists in Birmingham an amount of indifference that is most prejudicial to the interests of the Botanic Garden and of Birmingham horticulture generally. The Society's finances are not altogether satisfactory, and the immediate policy should be one that will reawaken an enthusiasm in the city for the future of the garden; and by making the garden as attractive as possible to the members of the Society, shall succeed in permanently increasing the number of its supporters. The Curator should not be hampered by lack of funds.

Professor Hillhouse, who has been secretary to the Society for many years; Mr. Neville Cham-

berlain, treasurer; and the Committee, of which Professor Poynton is chairman, are determined to do their best to place the gardens that John Claudius Loudon made in 1831, upon a basis that will do credit to its traditions; and it is earnestly hoped their efforts will meet with success.

Mr. Humphrey's removal from London will be much regretted by those who attend the meetings of the Royal Horticultural Society, and have experienced his invariable courtesy and kindness; but they will wish him a most successful and happy career in his new sphere of work. Like Mr. Latham, the retiring Curator, Mr. Humphreys is a member of the Kew Guild.

HOW PLANTS SCATTER THEIR SEEDS.

THE pageant of flowers, with all their varied, almost infinite tints and scents, forms and sizes, which we witness with unbounded interest and joy from the earliest spring to the latest summer months, will not be long before it draws to a close. From the Snowdrops and Daffodils amongst the leaders of the procession, to the Scabiouses, Hawkweeds, and Thistles amongst those which bring up the rear, there has been a constant succession of forms. The flowers had their brief reign, and died, were replaced by others not less beautiful and attractive than they; and these again by yet other dynasties of floral kings and queens—not a break in the whole long line of beings, until the summer sun shall fail of warmth and light, and autumn's more sombre season usher in less genial days.

What is the meaning of this cycle in the necessities of plant-life, this fixed period for the flourishing of each species in the vegetable world? The study of the mysteries of the phenomena of plant-life teaches us that a flower, as regards all its qualities of colour, scent, form, and size is a special adaptation of certain parts or organs of a plant for the attainment of the whole ideal of its life—viz., the production of progeny, the perpetuation of its species. The "flower" is the instrument whereby the opposite sexual elements are brought together and blend to build up the new individual. External agents in the form of insects are the most usual means to this end, and these winged messengers are busied in carrying the male element, contained in the pollen, of one flower to the female element, contained in the ovule of the other flower. That this work may be accomplished, these insect-agents must be first attracted to the plant, then encouraged by something which will induce repeated visits. The first of these requisites is afforded by the form, colour, and scent of the modified organs of the plant, and thus the "flower" comes into existence, pleasing to our human as well as to the insect senses. The second requisite is supplied by the honey and pollen, both serving as valuable and attractive food for the winged visitants. But besides these wonderful agents of fertilisation in the form of organised creatures, there is another, the wind, which plays the same though a more uncertain rôle in accomplishing the same end.

Now, that great agent of the hidden life-principle of the world, natural selection, has so distributed the periods of the flowering of the various forms of plant-life, and also of the activity of the various types of insect organisation, that there shall be a minimum of competitive struggle, and hence of the number of species of plant or insect flourishing at the same time of year. So that the great struggle for existence has caused many a flower and insect (for both these lines of organised life are interdependent the one upon the other) to reach their maturity in the earliest spring months, when the frosts of winter have barely relinquished their deadening grasp; others in the height of summer;

while yet others are forced to develop to their fullest in autumn's latest, darkening days. This distribution of the flowers through the varying seasons is thus the inevitable outcome and expression of the mighty struggle of each species of plant for the most adequate and surest means of fertilisation, and therefore of the perpetuation of its kind.

This act of fertilisation having resulted in the formation of seed, the next question which the plant has to solve is this: How to distribute that seed, each grain of which contains within itself the potentiality of a new individual plant.

Now, the first great condition on which the proper distribution of the seed depends is this—its dispersal over as wide an area and one as distant from the parent-plant as possible, so that the seedling plants shall have new soil and varied environment in which to start their life, for the greater the variation in the environment the greater the likelihood of fresh variation in the species, and of the eventual formation of a new species to people the earth. For if the seeds were merely to drop close round the parent plant, baneful results would follow, from two causes: the soil would probably be soon exhausted by the numerous thick-sown progeny springing up all round, and the overcrowding of the seedlings would cause many a one to go to the wall and perish by the fierce battle for existence which would ensue; whereas the wide scattering of the seeds would enable very many more to survive. Hence the phenomenon, which in the autumn or late summer comes especially before our eyes, of the preoccupation of all trees and herbs in the business (very vital to them) of dispersing their seeds in the way most advantageous to them.

It is of some of these methods of seed-distribution, as found amongst our native flora, that I propose now to treat; and it is extremely interesting to the lover of Nature to note the varied and ingenious means which plants have adopted to further their desired ends.

There are a large number of plants which rely entirely upon the smallness and lightness of their seeds or fruits for their adequate distribution, the wind being the agent employed for this object. In some, as in the Foxglove, the dry capsule simply splits open by its valves from top to bottom, thus liberating the seeds, some of which will doubtless be blown by the wind to some considerable distance from the parent plant. In others, as in the Stitchworts and Chickweeds, the capsule opens at the top only, by numerous small teeth, the seeds being shaken out between these latter. The Poppy forms square apertures all round the large swollen seed-vessel, just beneath its hard, flattened dome, and through these the very numerous small seeds are shaken out and scattered to some considerable distance as the wind sways the tall stalks of the capsules backwards and forwards. In the Harebell and other bell-flowers, or Campanulas, curious "windows" are constructed, either in the upper or lower part of the seed-vessel, by the obliteration of a small area of the tissue of the wall, and through these, as in the Poppy, the tiny seeds are shaken rudely out by the wind. Among other plants producing these small, light seeds are the Orchids, whose seeds are like dust in fineness, a single grain of the rare Scotch Orchid *Goodyera repens* having been found to weigh only 0.000002 gramme; also the *Pyrola*, Grass of Parnassus, Sundew, Sedums, Saxifrages, Rock Rose, Gentians, Purple Loosestrife. The common garden Scarlet Pimpernel has a globose capsule, opening, when ripe, transversely by a lid, thus liberating the light seeds. The lower orders of the vegetable kingdom, the Ferns, Mosses, Fungi, &c., produce seeds or spores far smaller and lighter than the seeds of any flowering plant, and which can thus travel immense distances on the wings of the wind. The obvious advantage of the produc-

tion of seeds of this class lies in the fact that great numbers can be produced by a single capsule.

Other plants, relying upon the same method of distribution, never set free their seeds, but each grain remains enclosed in a very small and lightly-constructed seed-vessel, easily detached from the stem, and transported by the wind, just as are the small seeds. Those which have adopted this course are the Nettle, the Mallow, the Labiate tribe, including the Sage, Mint, Thyme, Balm, Wood Germander, Bugle, Horehound, Dead Nettle, Betony, Ground Ivy, Self-heal; several of the Umbelliferous family, as the Celery, Hare's-ear, and Burnet Saxifrage; some Composites, as the Wormwood, Daisy, and Feverfew. In the plants so far considered, the fruits and seeds have no specially obvious adaptation in the shape of any modified or added structure to ensure their transportation by the wind; a simple diminution in size is what has chiefly taken place.

Very different, however, is the case of the next category to be described, in which special structures are found on the fruits or seeds which facilitate their dispersal by the wind. The first of these structures are the "wings." In seeds, the "wing" is usually the attenuated, enlarged margin of the flattened body, whose area is greater than that of the essential part of the seed, and the centre of gravity is so placed that the broad side of the seed is presented to the direction of its descent, thus enabling it to be the better buoyed up by the wind. Such a flattened seed with its broad membranous wing is clearly well fitted for carriage by the breeze. Examples of winged seeds are afforded by the Cow-wheat, Iris, Wallflower, Tulip; likewise by the Pine, Spruce, and Larch, &c., where the winged seeds are tightly enclosed in the compact woody cone, only to be liberated on the breeze when in the dry autumn or late summer days the scales of the cone part asunder and the seeds fall out.

Far more common, however, are winged fruits. How familiar on autumn days are the gyrating winged capsules of the Sycamore floating through the air; and no one can doubt that the large, veined, membranous "wing," a special outgrowth of the upper part of the seed-vessel, is eminently serviceable in scattering the fruits of the Sycamore and Maple far and wide. Scarcely less useful for this purpose must be the "wings" exhibited by the numerous fruits composing the "keys" of the Ash, although here the individual fruits and "wings" are smaller, but constructed on the same plan. Well known are the light green winged fruitlets of the Elm, as they fall from the trees in the early summer months. Here the broad, membranous "wing" surrounds the entire fruit, and is prettily veined. In the Umbelliferous family, the Wild Angelica and Cow Parsnip afford instances of flattened capsules with either a single or several longitudinal membranous wings, the general plan of structure being exactly that of the winged seeds. Similar instances are afforded by the Shepherd's Purse, Penny Cress, and Mountain Sorrel.

The necessary wings are often provided by the bracts or floral envelopes immediately surrounding the fruit. On any windy day in Epping Forest it may be seen how the large three-lobed bract, bearing the fruit in its hollow base, has successfully usurped the function of a wing in the transportation of its precious freight. The Meadow Grass, Canary Grass, and Soft Grass distribute their fruits by the wings on the paleæ or inner glumes. In several plants the corolla, calyx, or the green perianth constitute the wings, as in the Saltwort and Orache of our shores, the common Dock, the Milkwort, with its two large, persistent purple sepals, and some species of Clover. *W. C. Worsdell, F.L.S.*

(To be continued.)

QUEENSLAND PALMS.

OUR illustration (fig. 23), for which we are indebted to Mr. Bailey, the Colonial Botanist of Queensland, shows what he calls a "Scrub View," which might create envy in the minds of those who have to arrange a tropical-house in this country. The tall Palms to the left are *Archontophoenix Cunninghamii*, with *Calamus Muelleri* in the foreground. The taller Palm has been figured as *Seaforthia elegans*, *Botanical Magazine*, 4,961, but differs in various particulars. The stems attain a height of 60 to 70 feet; the pinnate leaves measure 6 to 8 feet in length, each pinna linear, about 18 inches long. The Palm is fully described in Bailey's *Queensland Flora*, Part 5 (1902), p. 1,675.

ALPINE GARDEN.

THE SPECIES OF RUBUS.

THE genus *Rubus* is one which affords the gardener much valuable material, though it is not to be wondered at that the plants it yields have been more appreciated for their fruit than for their decorative value. Yet this has not gone unobserved, and many gardens are now enriched by these fine Brambles and allied plants, whose flowers and effective habit give attractions wherever they are grown. Of all the plants of the genus, hardly any receive so little notice from the cultivator of hardy flowers as the few dwarf Brambles and Raspberries, of stature sufficiently diminutive for the rock-garden. Generally of simple cultivation, they are usually pleasing in their foliage and pretty in bloom, the flowers being sometimes followed by attractive little "berries," grateful to the eye and often pleasing to the taste. Of two or three of these I desire to speak.

Rubus arcticus.—One of the most delightful of these is the Arctic Raspberry, or Bramble, as *Rubus arcticus* is colloquially termed, a widely distributed plant in Northern Europe, Asia, and America, extending far into the Arctic regions, and standing unharmed the rigors of such a clime as these northern lands afford. It delights in peat bogs and damp woods, but it adapts itself well to other conditions, and will thrive and flower quite happily in drier positions, such as those afforded by the base of the rockeries, where the moisture from above can reach its roots. It is a delightful little plant, often dioecious, with pretty little pink flowers, the berry-bearing plants producing delightful little light-red edible fruits, exquisitely fragrant. They are pleasant to the taste, being prized by Swedish epicures, and a few placed in a saucer are quite sufficient to scent a whole room. It may be observed for the sake of those who wish the fruiting plant that it is generally known in nurseries as *R. arcticus* *fœcundus*. The leaves are usually trifoliate, though sometimes five-foliate. The whole plant is only a few inches high, its height varying from 3 to 8 or 9 inches. It is increased by division or seeds.

Rubus chamæmoris.—Another beautiful little Bramble for the rock-garden is *R. chamæmoris*, the Cloudberry, which is also sometimes called the Mountain Bramble, Mountain Raspberry, or Knotberry. It also is widely distributed over Northern Europe, Asia, and America, and it is well known to climbers of our own mountains, where it flowers in July. The flowers of this pretty native plant are of a comparatively large size, and are succeeded by its pretty edible red fruits, which are greatly appreciated by many, and form a valuable food for the Laplanders and Norwegians, who sometimes preserve them by a kind of "cold storage" by burying them in the snow. The leaves are five to nine-lobed, while the flowers are dioecious. This species prefers a

damp soil, but is easily accommodated in the rock or bog-garden.

Rubus saxatilis.—This is one of the least desirable of the dwarf members of the genus, though it is not a tall grower, its general height being from 8 to 10 inches. The small-petalled flowers are a greenish-white or yellow, and the fruits are composed of a few large red clustered drupes. The habit is erect, and the plant is more suitable for stony ground than the two already named.

and we are referred to "*Sm. Pl. Ic. Ined.*, t. 63." I have not access to that work, so that I cannot compare my specimen, procured from Mr. Smith of Newry, with it. I have no reason, however, to doubt its correctness, and I have seen the plant flower for the first time this year with great pleasure. It is a low creeping *Rubus* with five-foliate leaves and attractive little white flowers about an inch across, which at first sight resemble those of a small wood Anemone. I look upon it

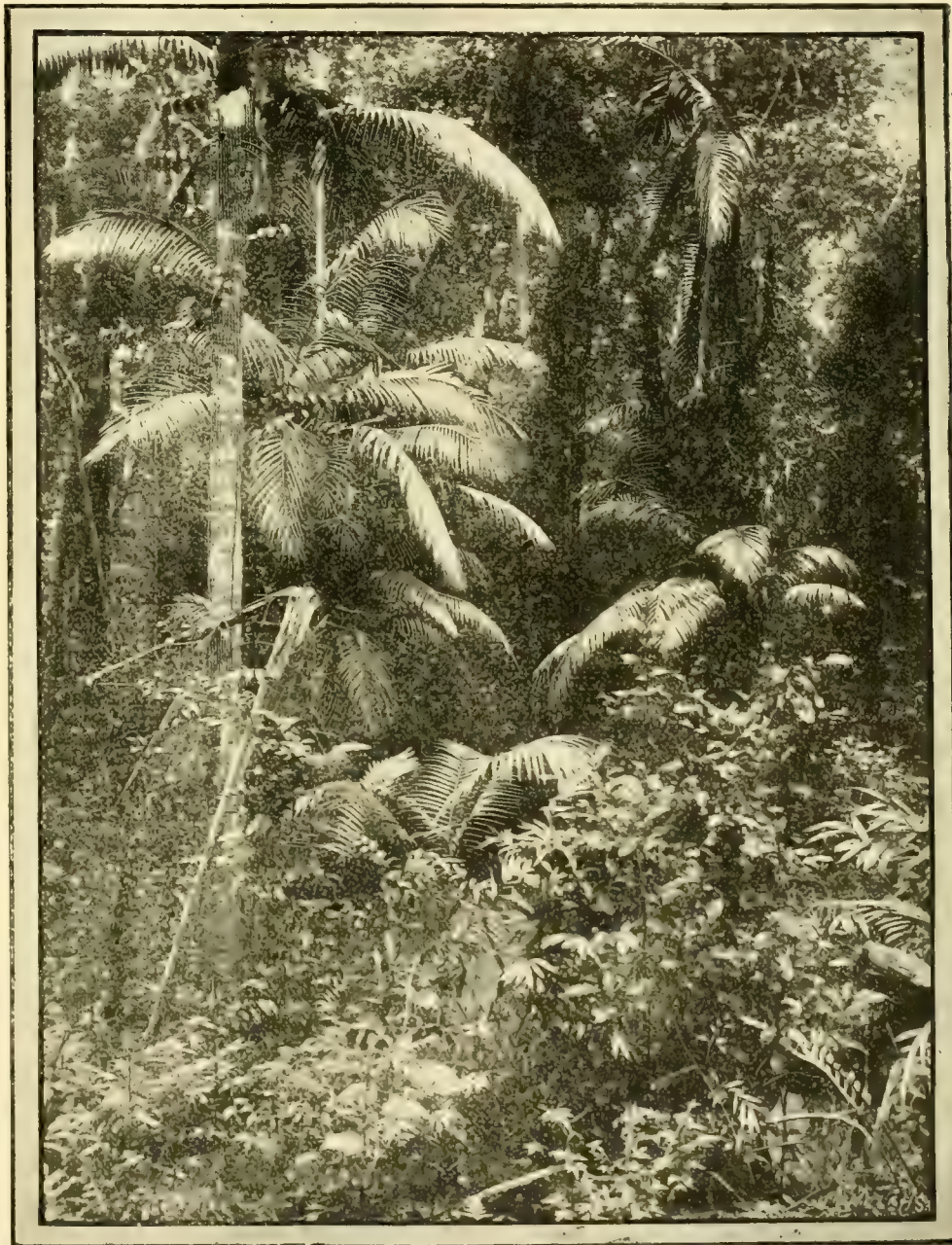


FIG. 23.—ARCHONTOPHOENIX CUNNINGHAMII, WITH CALAMUS MUELLERI IN FOREGROUND, IN BRISBANE BOTANIC GARDENS.

The leaflets are ovate. *R. americanus* of Britton is considered by some a variety of *R. saxatilis*, and is *R. s.* var. *canadensis*, Michx., and *R. s.* var. *americanus*, Pers. One cannot consider this species worthy of being included in a select collection of such plants.

Rubus pedatus.—Unlike *R. saxatilis*, *R. pedatus* is one of the most desirable of the dwarf Brambles. It does not appear to be well known, and I cannot find any allusion to it in current works of reference, except that it is named in the *Index Kewensis* as a native of North-west America,

as the prettiest of these low-growing Rubi for the rock-garden. The weather this season was unfavourable for its fruiting, but from each flower there are a few small drupes of a dull red. I am cultivating it at the base of a rockery in much the same position as *R. arcticus*, and it is slightly dwarfer than that species.

Rubus xanthocarpus.—By way of Italy I received about a couple of years ago the Chinese *R. xanthocarpus*, which is of creeping habit and grows from 8 to 10 inches high. It is rather a pretty Bramble with long, light-green leaflets in

threes, and large white flowers followed by yellow fruit. Even did it never flower this would be a pleasing plant for the rock-garden, although it is exceedingly prickly and [not at all agreeable to handle, so penetrating are the hook-like prickles. It seems hardy enough. It is said to have been introduced in 1892, but it does not appear well known to the few growers of the dwarfed Rubi in this country. S. Arnott, Rosedene, Carsethorn by Dumfries, N.B.

NOTICES OF BOOKS.

LE LIVRE D'OR DES ROSES.

THE second part of this new Rose-book has recently appeared. As in the previous part the letter-press is interesting, the type excellent, and the small woodcuts here and there introduced are daintily executed, but the leading feature of the work, the gallery of portraits of the various types of Roses, is disappointing. In the first place most of the varieties depicted are now, at all events in England, seldom if ever grown. Out of the fifteen coloured illustrations of Roses in the present part only seven varieties are to be found in the latest edition of the National Rose Society's official *Catalogue of Exhibition and Garden Roses*—viz., Prince Camille de Rohan, Cristata, Madame Gabriel Luizet, La France, Marie Baumann, Eugénie Verdier, and A. K. Williams. But even of these, the more modern varieties, the latest was sent out as far back as 1877. This would not be so much a matter for regret if the portraits themselves could be regarded as faithful representations of the Roses selected, as then they would serve to illustrate to some extent the advances made in the Rose-world during the last thirty years. Unfortunately, the flowers are not drawn to the same scale, so that a fine exhibition variety like A. K. Williams is made to appear quite a small Rose when placed beside the portrait of Marie Baumann, while its perfectly imbricated form has almost entirely disappeared. Then, again, the stem of Madame Gabriel Luizet is represented as perfectly smooth, whereas in reality it is thickly covered with sharp spines, while the thorns on Marie Baumann appear to be all of the same size, instead of a mixture of small and moderately large thorns. Coloured illustrations of the Queen of Flowers are seldom satisfactory, but one might have hoped to see in a gallery of Rose portraits of the extent attempted in this rather ambitious work truer and more uniform representations of the varieties depicted, even if the colouring, as usual, fell short of what could be desired. *Edw. Mawley.*

HANDBUCH DES LAUBHOLZ-BENENNUNG (Berlin: Paul Parey).

THIS work, compiled by Messrs. Beissner, Schelle, and Zabel, includes a systematic as well as an alphabetical list of trees and shrubs other than Conifers which will endure the winters of Germany with little or no protection. The plants are arranged according to the system of Engler and Prautt. To each the adopted name and the principal synonyms are appended, with the name of the author, but no indication of the book in which published, and no reference to figures. With a view to show the thoroughness with which the work has been compiled, we note that the common *Berberis* has some thirty synonyms referred to it, besides some eighteen or twenty "formen" and "unterformen," and nine hybrids.

The value of a book of this kind can only be fairly estimated after frequent use, and it is probable that the views of the authors as to the identity and synonymy of the species might not always be shared by others. But this, of course, is quite inevitable. What is quite certain is that the book will be found indispensable to those whose business it is to study trees and shrubs.

FLORISTS' FLOWERS.

CARNATION FRANCIS SAMUELSON.

(SEE ALSO P. 60.)

THIS fine seedling Carnation, which was awarded a First-class Certificate at the recent York Show, is undoubtedly the best of the apricot-coloured section of border Carnations yet raised. The colour is a particularly rich shade of apricot, deepening towards the centre of the flower, which is of large size, with smooth even petals regularly arranged.

Having seen this Carnation growing last summer along with several other choice seedlings, I can congratulate the raiser (Mr. George Brotherston) on securing such a desirable variety. Breckenborough Hall, where it originated, is the Yorkshire residence of Francis Samuelson, Esq., a popular squire in the North Riding of the broad county, and one who takes a keen and lively interest in his gardens and estate. The gardens in particular, at the time of my visit, were specially interesting, the Carnations and Sweet Peas being very fine. *T. H. Bolton, gr., Baron Hill, Beaumaris.*

THE ROSARY.

THORNLESS ROSE ZEPHYRIN DRONAN [P].

I SEND flowers of this, to my mind, lovely Rose, very seldom seen, much less grown or known. It forms a suitable variety for covering a low wall, and is, in wet and cheerless weather, in flower before all others. *W. C. Leach, Albury Park Gardens, Guildford.* [We are unable to find the name of this Rose in any official list. Ed.]

The Week's Work.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Lælia anceps.—This plant being now in active growth, it should be afforded water at the root freely, also syringings morning and afternoon; and if possible shading should be removed early in the afternoon, sunheat by day and conditions comparatively cool and moist by night suiting it best.

The Odontoglossum House.—During very hot weather everything possible should be done to keep the air of this house a few degrees lower than that of the external air; and but little difficulty is experienced in so doing when the house is a lean-to facing north or north-east. When, however, a house is span-roofed and runs north and south, fully exposed to the sun all day long, coolness is attained with difficulty in the daytime. At Westonbirt we have such a house, and double blinds have to be employed during the warmer hours, and the floor, paths, &c., kept wet by distributing water twice daily.

Lælia Digbyana.—The requirements of this species has been much better understood of late years than formerly, and it has been proved that more satisfactory results follow when it is cultivated in a leaf-soil compost similar to that used for Cattleyas than when the usual thin layer of peat sphagnum and crocks is used; and the leaf-soil compost will build up strong flowering growths if due care and attention be afforded. When our plant starts into growth early in the year, it is removed from its resting quarters to a house where a genial growing temperature is maintained, and as growth advances the quantity of moisture afforded the plant is increased, moisture being much needed when growth is taking place, especially at the time when the pseudo-bulbs are forming. As soon as the flower-spikes become visible, the plant is placed in the Cattleya-house, in which house it remains till the flowers expand. When the flowers are removed, it is put into a very light position, and a long rest afforded.

Potting.—*Lælia Digbyana* may be repotted at this season, or when starting into growth next

year, the former being preferable, new roots now being emitted by the pseudo-bulb last formed. A compost identical with that recommended for Cattleyas in an earlier Calendar may be made use of, the usual surfacing of clean sphagnum being given. Either a pan for suspending from the roof or a pot for standing on the stage may be employed, but these must not be any larger than is absolutely necessary; the drainage must be very good, and the potting materials moderate in quantity. A repotted plant requires great caution on the part of the gardener in affording water, the potting materials being just maintained in slightly moist state. When re-established treat it in the same manner as a plant which has not been disturbed at the root, affording no more water whilst it is resting than will keep the roots healthy and pseudobulbs plump.

FRUITS UNDER GLASS.

By T. H. C.

The Pine Stove.—The recent warm weather has favoured the growth in the plants, it having been possible to afford full ventilation, and to husband the sun-heat at closing time, and thus reduce expenditure on fuel. At closing time syringe the plants lightly, and allow the temperature to rise with solar heat to 90°. The warmth at night should not exceed 70°. Damp down more or less as may be required. Young plants in a growing condition should not lack water at the roots, or growth will be stunted; on the other hand, a very wet state of the soil should be avoided. Plants intended for fruiting in the winter, which have been rested during the past month, should now be afforded tepid water copiously, and a higher top and bottom heat, in order to induce a start. If the bed is cooling unduly, let the materials be renewed in part, so as to carry the plants through the fruiting period without further disturbing them. The bottom-heat may range from 85° to 90°. Plants now in flower should be afforded a dry atmosphere, and not be wetted till flowering is past. When the flowers are set, apply manure-water when moisture at the root becomes necessary. Ripening fruits require a considerable amount of air, a high temperature, a dryness in the surroundings, and only clear water at the root, the quantity of which must be reduced as the fruits approach perfect ripeness.

Figs.—Trees with fruit ripening should be afforded air freely so as to ensure good flavour, making sure that the soil is not dry. Such of the trees as are carrying a heavy second crop of fruit will require to have the fruits thinned, and if large fruit be desired leave only two or three of varying sizes on a shoot. Regulate the shoots so that there is no overcrowding; cut away all unnecessary growths or those that shade the principal bearing shoots. The above remarks apply to Figs in pots now carrying a second crop of fruit. Much vigilance is needed in applying water betimes, so that no risk is run from dryness of the soil; and at this season water may be needed twice daily. An occasional dressing of sulphate of potash well watered in, and daily applications of weak farmyard liquid-manure are very beneficial. Syringe the plants vigorously morning and afternoon or red-spider will increase. Ventilate freely when the weather is favourable; close early, and with sunheat let the temperature rise to 85° or 90°; the night warmth may range between 65° and 70°. Trees in pots intended for forcing early next year should receive similar treatment at the roots so as to enable them to make strong shoots. It is important that the shoots be thoroughly matured by the end of the month of September.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Layering Carnations.—Early layering is an important point, more especially if the rooted layers are to be planted direct to the beds or groups where they are to flower. If transplantation be done in October, and the layers are well rooted, they become established before the winter sets in. Late layering and coddling the plants through the winter in pots under glass are things to be deprecated, it being a cause of failure with border Carnations. In all the earlier parts of the country the layering of Carnations may now be undertaken. Let

a mixture of turfy loam, a year or longer time in stack, a small quantity of leaf-mould, and sufficient road-grit as will render the whole gritty to the touch, be got in readiness for the work, and after scooping out some of the soil, place round the plants to the depth of about 2 inches some of this mixture, and make the surface flat. Having done this, select three or four layers from each plant (never all the shoots), but leave some to keep the roots at work. In pegging down the layers see that the tongue of the layer is kept well open [old growers put a grain of wheat under it. Ed.], and make the soil firm round each layer, finishing off level; and if the weather be dry syringe them in the afternoon. Apply water to settle the soil, and generally keep the layers moist. By attention to these details roots will quickly form. I may add one word of caution. In dealing with new varieties of promise never discard an old favourite variety till it has been proved that the novelty of the same colour is a better flower, and the equal of the old variety in regard to constitution.

Iris.—Most of the winter or very early-flowering Irises, as *I. reticulata*, *I. alata*, *I. stylosa*—*unguicularis*, *I. persica*, including the new *Helldreichi*, should be planted as soon as possible; and flowering as they do when the weather is usually ungenial, sheltered positions should be chosen for them. If they can be covered with glass in some way, these Irises usually succeed, and the blossoms last in good condition for a considerable length of time.

Dahlias.—The shoots of the Dahlia being easily damaged by the wind, the plants should be gone over at short intervals of time, and fastened to the stake or stakes. Varieties of Cactus Dahlias which have a tendency to hide their flowers under the leaves when allowed to grow naturally, should have the upper shoots removed from around the flower-buds, and be disbudded as well if blooms are required for exhibition. Earwigs will now infest the plants, and they should be trapped in short lengths of Bamboo or Broad Bean-stalks placed among the branches, these being less unsightly than the usual flower-pots stuffed with moss or hay.

Violets.—Thoroughly syringe these plants daily, and afford them water abundantly when the soil has got dryish, doing this, and applying a mulch of leaf-mould or decayed stable-dung, so as to keep red-spider in check. In syringing, use an elbowed nozzle on the syringe, so as to get the water on to the lower sides of the leaves.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bioton, Budleigh Salterton, Devonshire.

Chrysanthemums.—The plants require much attention in regard to the state of the soil in the pots, three times a day being not too often to examine them. Whether water is or is not required may be ascertained by rapping the pots with the knuckles. As soon as the roots are seen to be working round the side of the pot, drainings from the coveyard, one of the best manures, or deer's or sheep's dung in the form of diluted mixtures with water, together with soot, may be applied once a week. With the exception of the early-flowering varieties the flower-buds should be removed from them until about the middle of next month, one or more growths being allowed to extend. Secure the best shoots so that wind or rain will not break them off; remove superfluous growths as fast as they appear, and syringe the plants after hot days, plying the water on the undersides of the leaves, adding some quassia extract if aphides appear. The plants are looking well and free from the Rust. Should the latter appear on any of the plants let them be isolated, and syringe or sponge the leaves with warm water to which a wine-glassful of petroleum in 4 gallons of the former has been added.

Carnations.—The Tree varieties now standing in the open air on a bed of coal-ashes should have the point of all shoots showing flower nipped out, and the growth secured to neat stakes; and as the pots fill with roots apply weak manure-water or soot-water once a week, soot being a capital manure for Carnations.

Souvenir de la Malmaison varieties of the Carnations, as the plants pass out of flower, may be layered forthwith, selecting the oldest or most leggy for the purpose. Knock them out of their pots and plant them in a cold frame or pit in a bed made up of good loam, leaf-soil, road-grit, or coarse sand. The plants should be laid on their sides, and the soil made firm about them. Then having selected the shoots to be layered trim off the bottom leaves, and with a sharp knife make a slanting cut upward through a joint on the under side of the shoot, and with a hooked peg, and the top of the shoot slightly raised, make it secure in the soil, placing a layer of soil about 1 inch thick over each one. Keep the lights fairly close, and afford shade for a few days if the weather is very bright, but do not apply water for twenty-four hours, which will give the surface of the wounds time to dry, afterwards the soil should be kept fairly moist. Plants intended to be grown on should be given a pot 2 inches greater diameter, and a compost consisting of good turfy-loam two parts, flaky leaf-soil one part, and thoroughly rotten manure (cow-dung if possible) one part, with the usual amount of coarse silver-sand. Pot fairly firmly.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Endive.—The plants of the earlier sowings should be blanched when about half grown by tying them up in the same manner as Cos Lettuce, or by covering them with flower-pots, which should be placed firmly on the ground and the holes covered with a piece of slate so that the light cannot enter. The plants should be quite dry when covered. Later sowings should be well supplied with water at the roots. Make a sowing on a south or west border, and if the weather be dry thoroughly apply water to the seed-drills before sowing the seeds.

Lettuce, &c.—Make sowings every ten days or thereabouts of Cos and Cabbage varieties. Bath Cos, Hicks' Hardy White, All-the-Year-Round, and Brown Dutch, are excellent Lettuces for present sowing. Sow on a south or west border, and protect the beds with fish-netting. Afford the earlier sowings water in dry weather, and manure-water between the rows by means of a long-spouted watering-pot if growth is slow. Radish-seed in small quantities should be sown fortnightly, and the beds kept moist.

Dwarf and Runner Beans.—Make a large sowing of French Beans on a south border or other warm spot, applying water to the seed-drills before sowing if the land be dry. Runner Beans should be afforded water copiously, and liquid-manure occasionally. In hot dry soils apply a mulch of rotten manure to the rows, and during hot weather syringe the plants, and thus prevent the casting of the blossoms.

Beetroot.—The early - sown Egyptian Beet should be lifted when of middle size, as if left longer in the ground the flesh becomes stringy. Cut off the leaves all but about an inch, and store the bulbs in sifted coal-ashes on the north side of a wall. Stir the soil among later crops, and in showery weather apply slight top-dressings of artificial manure, in the proportion of nitrate of soda 400 lb., superphosphate 400 lb., and muriate of potash 100 lb. per acre.

Globe Artichoke.—Remove the heads when sufficiently large for use and before the stalk gets stringy, and store in a cellar with the butt ends of the stalks in a vessel of water. Afford manure-water to the plants, so that growth may be maintained for as long a time as possible.

Pot Herbs.—Cut these as the plants come into flower, and thoroughly dry in an open shed; afterwards wrapping each separately in small bundles in sheets of thin brown-paper, and hanging them in a dry place.

Celery.—Break up the soil finely and earth-up loosely, taking care not to bury the heart-leaves of the plants. Do not carry out the work in wet weather. Encourage late Celery by affording water copiously at the root and overhead in dry weather. If the Celery-miner is troublesome, hard picking must be resorted to, and the infested

leaves burned. Frequent dustings of soot applied in the early morning are beneficial to the plant, and act also as a deterrent to the fly. Beds of Celeriac should be kept clean; suckers should be torn off, and the plants kept well supplied with water.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

The Peach.—The fruits of Alexander, Waterloo, and Early York being now approaching ripeness on trees growing against south walls, the leaves that shade the fruits should be pushed aside for the purpose of heightening the colour and improving the flavour. In districts in which there are many blackbirds and thrushes, the fruits must be protected with fish-netting. If when gathering the fruits a piece of wadding is held at the back of the fruit, the bruising of the latter will be prevented. Peaches will keep for two or three days in a cool room if placed on sheets of wadding. Most early Peaches are lacking in flavour, but in a season like the present one, when dessert fruit is scarce, the fruits are not to be despised.

Apricots are ripening fast, and the gardener should examine his trees almost daily, gathering such as are ripe. Apricots keep much longer than Peaches after being plucked if carefully handled and kept in a cool room. The nests of the common wasp are not numerous this season, still, if any queen wasps are found they should be destroyed. Gas-tar may be employed in destroying nests, and where the use of this is impracticable Davis's Wasp Destroyer may be used instead.

Gooseberries.—Nets should now be placed over the bushes, for the early varieties are ripening fast. At Dropmore the crop is a heavy one, and of fine quality. When Gooseberries are grown as cordons on north or east walls (an excellent method of prolonging the season), the fore-right shoots should be cut back to 6 inches in length, and the leading shoots secured to the wall before the nets are fixed up. These remarks apply also to Red and White Currants grown on walls.

THE APIARY.

By EXPERT.

The Week's Work.—Swarms should be supered or shallow frames placed on the hives where necessary. Good strong swarms or two lots which have united will be found to have filled up ten frames, and to be quite ready for further work. In districts where food is scarce it will be as well to place the partly-filled sections at the front, and not give them too many sections; but in many places the full number of sections should be given. Straw skeps should have a hole cut in the top, and another skep or super placed over it; before doing which, place a piece of queen excluder, cut a little larger than the hole in the skep, and place it over it, keeping it in place with a few wire-nails pushed through and into the skep below; this will save time and trouble when the honey is ready to come off. In raising the upper skep or super, place under it the bee-escape, which will be found to be very valuable, as the bees escape down it into the parent stock below without any danger of the queen or drones blocking the escape. In all operations have the smoker going and a carbolio cloth in readiness. In an Apiary say of twenty or more hives two smokers should be in use.

Taking-off Sections. Where these are taken away singly a little patience is necessary, and a good smoker is of the utmost importance in keeping the bees down, to enable you to get a good hold of the sections, which, as a rule, are firmly fastened down. Take hold of the section as far below the top as is possible, and gently pull it towards you, taking care at the same time not to pull off the top of the section, or any part of it. And one often marks the section with the fingers; this should be guarded against, as such sections are spoilt for sale purposes. Keep wax-moth down as much as possible, and continue to keep the Apiary supplied with clean water.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, JULY 28—North Kildare Horticultural Society's Show.

WEDNESDAY, JULY 29—Midland Carnation and Picotee Society's Show at Birmingham; Chesterfield Floral and Horticultural Show.

THURSDAY, JULY 30—Irish Gardeners' Association meet.

FRIDAY, JULY 31—Royal Botanic Society Lecture.

SALES FOR THE WEEK.

FRIDAY, JULY 31—Established Orchids and Japanese Trees, at Messrs. Protheroe & Morris' Central Sale Rooms, 67 & 68, Cheapside, E.C.
(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—63.4.

ACTUAL TEMPERATURES:—

LONDON.—July 22 (6 P.M.): Max. 73°; Min. 61°.

July 23 (Noon): Overcast, warm; 70°.

PROVINCES.—July 22 (6 P.M.): Max. 69°, Eastern Counties; Min. 52°, Shetlands.

We are so entirely in sympathy with Professor BEACH's proposals that we hasten to submit them to our readers. America is taking the lead in the development of scientific horticulture, if not of decorative gardening; but thanks to the identity of language, and owing to the closeness of our kinship, we can co-operate with her in the promotion of horticulture more fully than we can with Germany, a country which we have also allowed to take precedence of ourselves in this matter.

We must not delude ourselves into the idea that practical gardening and gardening amenities are everything, and that we continue to stand very high, and to take the first place in them. It may be so; but we shall assuredly lose that pride of place unless we are prepared to do as others do, and avail ourselves far more fully than we have done of the resources of science. We are happy in being able to derive from foreign countries that which we cannot produce for ourselves, but there is no reason whatever, apart from our sluggish indifference, why we should not very largely render ourselves independent of foreign aid. The Royal Horticultural Society, to which we look to take the lead and set the example in such matters, devotes itself too exclusively to exhibitions and to the commercial interests of the exhibitors. Its experimental garden is too much given up to trials at which the great commercial houses laugh, and to the culture for distribution among the Fellows of plants which could be bought for a minimum sum from the nearest nurseryman. Research and experiments, on the results of which the future of practical horticulture depends, and the welfare of its devotees, are neglected and ignored, in spite of the recommendations of its own Committees.

When the new Hall is completed we trust that, without any interference with the practical work of the gardens, which is in excellent hands, the establishment of a scientific department under a scientific director, and the reorganisation of Chiswick, will be the next matters taken in hand. The kind of work we have in view can for the most part be done just as well in the suburbs of London as elsewhere, and does not necessitate the formation of a new garden in the country. However desirable that may be—and we should be among the first to admit the desirability—it is not a matter of urgency, seeing that the lease at Chiswick has still many years to run.

So much by way of preface to Professor BEACH's proposal, which we now append:—

"It is proposed that there be organised a society for horticultural science, the object of which should be more fully to establish horticulture on a scientific basis. The membership would naturally be made up of the horticulturists of the experiment stations and of the United States Department of Agriculture, together with other scientists whose work has a horticultural bearing. The meetings would be held in connection with those of some kindred society, as the American Pomological Society, or the American Association for the Advancement of Science.

"The amount of scientific work being done in this country along horticultural lines is not fully appreciated in the scientific world, because in many cases it is obscured in presentation by a large admixture of popular features. In order to put this scientific work in the right light before the world, it must be freed from all distracting elements. Scientific features should be brought prominently into the foreground, and attention focused upon them. The scrutiny to which they would be subjected in this event would doubtless lead to a more complete investigation of some scientific points now imperfectly developed. In bringing about these results, a society for horticultural science would be a potent factor.

"Further, there is a large amount of general scientific work, especially in plant-physiology and physiological chemistry, which has a direct and important horticultural bearing, but which is not making the impress on horticultural investigation that it should do. This work should be reviewed from the standpoint of the horticulturist, and its horticultural applications should be clearly pointed out. This service also the Society for Horticultural Science could perform. Such a society could be made a rallying-point for horticultural investigators, crystallising about itself the scientific horticultural thought of the country.

"One large result of the organisation of this society would be the opportunity that it would afford for the differentiation of scientific and technical from popular features in the presentation of results. The scientific and technical framework of investigation could be presented before the society in the form of memoirs and be discussed in the technical language of the laboratory. At the same time the popular presentation could be rid of all those undesirable technical features, which under the present system are sometimes included, not for the benefit of the practical man, but simply for other investigators. This separate presentation of scientific features would emphasise their importance and tend to stimulate activity in further scientific investigation. That such stimulation is needed our station horticulturists are unanimously agreed. The creation of a society for horticultural science would be a logical and concrete expression of this need.

"This society would not supplant any existing horticultural activities, but would supplement all of them. It would aim to do for horticulture

in general what the Plant Breeding Conference did for one special branch—it would call forth and centralise the most advanced horticultural thought of the day.

"If a sufficient number of favourable replies are received, it is proposed to hold the first meeting in connection with the meeting of the American Pomological Society in Boston, September 10 to 12. If it is decided to organise, all who shall have signified their favourable attitude toward the project will be notified at once, and every effort will be put forth to have a worthy programme prepared for the occasion. The expense connected with the society will be only nominal."

OUR SUPPLEMENTARY ILLUSTRATION to the present issue has been prepared from a photograph kindly submitted to us by the Royal Botanic Society. The view is one in the large conservatory in the Society's gardens at Regent's Park, and will serve as a reminiscence to many of our older readers who may have visited and exhibited at the famous shows of fruit and plants that took place at Regent's Park more than a quarter of a century ago. It is approached from the park by means of a long corridor, in which it has been the custom to hold the spring shows; and when the exhibits could not be contained in this structure the overflow was disposed in various portions of the conservatory. The conservatory was built in 1845 by TURNER, of Dublin, who afterwards built the Palm-house at Kew. Both buildings consist of iron and glass, and therefore admit the maximum amount of sunlight possible; but the Kew Palm-house is much the larger building. At the time the Regent's Park conservatory was built, the gardens were under the care of ROBERT MARNOCK, formerly Curator of the Botanical garden at Sheffield, the site of nearly 20 acres having been converted from a nursery into a botanic garden about five years previously. The conservatory is not a hot-house, and the species of plants it contains belong to those that require a cool, or at most an intermediate temperature. Like most other botanical gardens that are not supported by the Government, that at Regent's Park has suffered badly for years past owing to lack of sufficient pecuniary means.

IMPERIAL SERVICE ORDER.—Gardeners will be pleased to learn that Mr. WILLIAM BROWNE, late Superintendent Royal Parks, whose portrait we gave on p. 30, has been invested by HIS MAJESTY with the Imperial Service Order. This is the first instance of the kind known to us.

KEW.—In the large herbaceous borders the yellow autumn composites and Dahlias have not as yet put in an appearance; but the old *Lychnis chalcedonica*, with its brilliant scarlet flowers, and *Salvia virgata*, with spikes of lilac-purple flower, are most effective. The white flowers of *Sidalcea candida* and *Chrysanthemum maximum* serve to tone down the brilliancy of the colour. A bed of *Begonia Count Zepphirin* [?], with very deep scarlet semi-double flowers, is noteworthy. *Kniphofia Northii*, with fine glaucous leaves like those of an Agave, but without spines at the margins, and with dense spikes of flowers, greenish-white below, reddish above, is just going out of bloom. The rockwork is so overflowing with interest and beauty that an attempt to note its contents would be futile. A few plants only can be noticed, among them *Dianthus viscidus*, with brilliant rosy-crimson flowers; *Campanula Tommasiniana* is remarkable for its long, tubular or cylindrical corollas, so different in shape from those of most of its allies; *Sidalcea Listeri* is remarkable for its pink flowers with deeply fringed petals; *Meconopsis Wallichii* is a stately plant, whose tawny, hairy surface forms a singular contrast to

the pale blue of the petals; *Potentilla nitida*, with its neat silvery foliage and small white flowers with pink stamens, is charming for covering the surface of rocks; *Halenia elliptica*, a blue-flowered gentian-wort, is a plant for the botanist by reason of its spurred flowers, like those of a *Linaria*, but otherwise so different. Among the Lilies, *L. croceum*, *testaceum*, and *candidum* are the most striking. In the Water-Lily tank near the laboratory are various specimens of Marliac's hybrids, among them *igneus*, *albida*, *Laydekeri*, *lilacea*, *Falconeri*, *flammea*, and others. *Solanum Wendlandi*, at one end of the Succulent-house, is so strikingly beautiful that the wonder is it is not universally grown where conditions are favourable, but as yet it seems little known. It was figured in our columns in 1899. At this time of year we felt inclined to pass No. 4, as there is so much to be seen outside; but let no one make that mistake, as that house is just charming. The contents are far too numerous to be detailed. We can only mention the brilliant *Hidalgoa Wercklei*, sometimes called a climbing *Dahlia*; but that would be no compliment to the graceful *Hidalgoa* unless a single *Dahlia* be intended. The finely-cut foliage and scarlet flower-heads are very beautiful. *Abutilon Golden Fleece* is full of bloom, and its pale yellow flowers drooping from the roof like so many bells are novel and effective. And here we must stop. Kew is much too rich and too varied in its contents to be dealt with in a paragraph. We allude to it with a view of inducing gardeners of all degrees to pay the gardens a visit, and to do so not only at this season, but at any time, for its interest is inexhaustible and independent of season.

— Not the least useful of the publications that emanate from this establishment are the lists of new garden plants published annually, and containing the names of the newly-introduced plants of the year, together with those of others which, having been lost sight of, have lately been re-introduced. The names are arranged alphabetically, with indications of the sources whence they are taken (European horticultural periodicals in general). Short descriptions are given, but generally speaking the names are taken as they are found. It would obviously be impossible to verify any but a very small proportion of them. Garden varieties are not included.

HORTICULTURAL CLUB.—The annual excursion of the members of this Club and their friends took place on Thursday the 16th inst., and despite the somewhat unfavourable state of the weather, was greatly enjoyed. The party, about eighty in number, met at Paddington terminus at 10 A.M., and proceeded in two saloon carriages to Windsor, where, thanks to the management of Mr. HARRY VEITCH, who undertook the arrangements, the courtesy of Mr. NUTT, the architect, Mr. MACKELLAR, the gardener, and Mr. TAIT, the farm steward, the Castle, the grounds, and the collection of cattle were all inspected in turn under the best of auspices. The Club, thanks to special permission accorded by the KING, enjoyed the unusual privilege of visiting the private gardens as well as those more generally open to inspection; and it need hardly be said the members were delighted, not only by the beautiful design of the gardens, but also by the order in which they are kept. On arriving at Windsor some of the party decided to drive through and around the splendid park; the major number, however, deterred by the threatened downpour, elected to visit the interior of the Castle, and although the State Apartments were not available for inspection, a tour through St. George's Chapel, the Memorial Chapel, and other adjuncts of the Castle itself was greatly enhanced by the presence of Mr. NUTT, who very kindly acted as cicerone to the party, pointing out the special points of architectural and historical

interest. To those who drove round the park the beauty of the scene was heightened rather than otherwise by the freshness imparted by the showers, the atmospheric effects on the long vistas of the avenues being charming. At 1 o'clock the party lunched at Messrs. LAYTON'S, and subsequently were conducted over the gardens by Mr. MACKELLAR, passing through the private gardens aforesaid and thence to the dairy, and finally reaching Frogmore. A capital tea had been arranged in one of the Royal conservatories, after which a couple of hours were spent in visiting the kitchen and other gardens, and eventually, under Mr. TAIT'S supervision, the prize cattle were paraded for the visitors' benefit, the party then being driven back to Windsor to dinner at Messrs. LAYTON'S. Mr. HARRY VEITCH presided, and after the toast of "The KING" had been gratefully honoured, the healths of Messrs. NUTT, MACKELLAR, and TAIT (the two latter gentlemen being present) were proposed and drunk with grateful recognition of their kind contributions to the enjoyment of the day, the function closing after a few words from Mr. HUNT, a visitor from New Zealand, with a similarly well-deserved recognition of Mr. HARRY VEITCH'S successful efforts to make it a red-letter day in the annals of the Club.

NATIONAL CHRYSANTHEMUM SOCIETY.—On Monday the 13th, the annual outing of this Society took place, a party of about 190 persons journeying by Great Western Railway to Reading, thence by water to the private landing-stage at Park Place, Henley-on-Thames, Mrs. NOBLE having kindly given permission that a visit might be made to the gardens and grounds. Dinner was served in a shady walk, over which the branches of trees formed an archway; then followed a perambulation of the grounds, after which tea was served, the party making the return by water to Reading, thence to London by train. It was an ideal day for such a visit, and it was greatly enjoyed by all; and Mr. GEO. STANTON, the steward, with Mr. W. T. POWELL, the gardener at Park Place, did all in their power to make the outing pleasant. Previous to embarking, photographs were taken of the group, the result being highly successful.

SUGAR-CANE EXPERIMENTS.—Reviewing the results obtained in Antigua and St. Kitts by Mr. WATTS, Sir DANIEL MORRIS says:—"The objects of the experiments are (1) to find disease-resistant varieties; (2) to discover a cane the equal or perhaps superior of the Bourbon, the cultivation of which has had to be abandoned owing to its susceptibility to fungoid attack. On the results of this year's experiments in Antigua, the Barbados seedling B. 208 heads the list. In St. Kitts the same variety also occupies the first place. In 1900-1, B. 208 was second and first in position in Antigua and St. Kitts respectively. Moreover, it occupied the first position in the Barbados experiments in 1900-01, and again this season. Mr. WATTS is therefore justified in recommending 'this cane with some degree of confidence for cultivation, always remembering that caution is necessary in the introduction of a new variety of cane.' Another variety of cane which stands out prominently is the Demerara seedling D. 95. During the last three years it has occupied a uniformly high position, and is worthy of careful attention at the hands of the Sugar-planters of the Leeward Islands. The caution of Mr. WATTS concerning the possible disappointment which may accrue to planters through their purchasing from distant places canes of the same name as those found to do well in their own locality, is worthy of notice. Planters would do well to exercise care in obtaining their supplies from a stock which has been proved to do well in or near their own districts. The chemical selection experiments are of great interest as indi-

cating a possible method of improving the Sugar contents of certain varieties by selecting only the richest canes for plants. These experiments are, however, not sufficiently advanced to warrant any generalisation being drawn from them."

MALMAISON CARNATIONS.—Each flower nowadays, or each category of flowers, is made the subject of a special literature. The Malmaison Carnation forms no exception to this rule. Under the title *L'Éillet à la Grande Fleur* (Paris, OCTAVE DOIN), M. RUDOLPH discusses the history and cultivation of these large-flowered varieties, and gives a list of those most frequently cultivated in France. The original *Souvenir de la Malmaison* was, it appears, raised in France in 1857 by M. LAINÉ, but a great step forward was made in 1895, when M. PERRIN, a nurseryman near Nice, exhibited a series of varieties at Cannes. In 1899 a number of new varieties were introduced from Bohemia. It is stated that a Bohemian military doctor was taken prisoner at Austerlitz and detained at Lyons; there he was attracted by the beauty of the Carnations he witnessed, and on returning to his native country he took seeds with him, raised new varieties, and by continued selection obtained a very fine race. M. RUDOLPH enumerates at some length the races produced, and the varieties exhibited by various raisers, but he is almost entirely silent as to what has been done on this side of the Channel. To him the Carnation Society is apparently unknown, and the names of MARTIN SMITH and DOUGLAS do not appear in his pages, though a few lines are devoted to the cultivators in the United States.

LATICIFEROUS TUBES IN CONIFERS.—M. CHAUEAUD, a pupil of M. VAN TIEGHEM, calls attention, in the *Comptes Rendus* for May 4 of the present year, to the presence of laticiferous tubes, some simple, others branched, in the liber of Conifers, whilst the resinous fluids are poured out of the cells in which they are formed, with intercellular resin-canals; the latex remains within the cells. The laticiferous tubes are specially seen in the young seedling plants.

THE GARDENS OF THE VATICAN.—In the last issue of his weekly journal, Mr. T. P. O'CONNOR has gathered together many interesting details concerning that remarkable man the late Pope LEO XIII. For us, here, the particulars respecting the POPE as a gardener, and the setting forth of the gardens, possess interest. "T. P." says the late Pontiff took a great interest in the Vatican gardens—would watch the growth of flower and fruit and tree with daily solicitude. He was very proud of the fact that the gardens produced 10,000 fine Oranges yearly; and one day he found that the gardener had allowed some of the Ivy to languish. The gardener excused himself on the ground that the soil was bad. The Pope replied, "You don't know what you are talking about, or else you think we believe everything you are pleased to tell us." After which admonition the Pope gave the gardener a regular lecture, which made him exclaim, as soon as the Pontiff's back was turned, "He can teach anyone, from the cardinals to the gardeners. They can't get over him!"

FULHAM PARK EXTENSION.—There was a double commotion at Fulham on Saturday last, a severe thunder-storm—thunder, lightning, and a deluge or two of rain—and the ceremony of opening the fine addition to Fulham Park. The former event brought consternation to the district; the latter brought Lord MONKSWELL and sundry members of the London County Council to the resort of the inhabitants of Fulham, and with all due ceremony and some expedition the ribbon bounding the older portion of the grounds from the new was severed, and the whole declared free for ever to the inhabitants of this one-time

distant suburb. The new portion (some 8½ acres) consists among other things of a fine sheet of water, with two KING'S swans floating on its surface; a fine sand-beach for the small boys of Fulham, whereon, with a little imagination, they can fancy themselves at Southend or Margate; a terraced promenade, a grotto of wildings, &c. When the season has really settled down to its work, the park, flower-beds, and shrubs, &c., will be duly appreciated by those for whom they have been provided.

IMPORTANCE OF SCIENTIFIC KNOWLEDGE.—The following remarks apply to the gardener as well as to the farmer:—"Better knowledge of animal husbandry, of the physiology of plants, and the chemistry of soils, is most needed by the farmers of the United States as a gift of the year 1903. . . . The farmer who thinks is the farmer that is making the money by his crops to-day. We buy too much in the way of agricultural products from abroad—too much that might just as well be raised by ourselves within the limits of our own territory. This year we shall have purchased \$200,000,000 worth of plant products which we could have grown in the United States, and, in addition, another \$200,000,000 worth that might have been produced in our new tropical possessions. The more our farmers know, the more things they will be able to grow, and the richer we shall be. Half the people of this country live by the soil directly, and 65 per cent. of our exports go from the farmers. If the foregoing be true of the United States farmer, it is even more so of the West Indian planter. We have in previous issues of this journal pointed out the great importance and need of educating the young generation of farmers and planters in the scientific principles underlying agriculture, if we would obtain the best possible results from tillage of the soil. The raising at home of products which are at present imported from abroad in large quantities, is another point the importance of which has often been emphasised in this journal." *The Agricultural News*.

EXPERIMENTS AFFECTING THE LIFE-HISTORY OF THE BRAMBLE.—M. GASTON BONNIER has contributed to a recent volume of the *Bulletin de la Société Botanique de France*, the results of some experiments made by him with Brambles. The usual life-history of these plants is as follows, so far as their arching branches are concerned. In the first year such stems produce leaves from the axils, of which come shoots, which arch over and become rooted at the tip, which forces itself into the ground. In the second year the shoots develop, and put forth rather short branches curved to about 45° from the horizontal plane, bearing a few leaves and terminating in an inflorescence. In the third year the whole arch dies, and consequently, buds formed on the second year's branches never develop. By fixing these arching stems in an upright position and maintaining them in that position for several years, M. GASTON BONNIER has induced decided modifications in the biology of the Bramble. The nutrition of the stems is influenced by their vertical position, since they can produce roots at one extremity only. Instead of the branches forming roots during the first and dying at the end of the second season, the life of these stems was prolonged for three or four years, while they put forth successively flowering branches the second season, and further, new shoots in the third season, a phenomenon never observed under natural conditions.

"NEWQUAY: THE VALE OF LANHERNE AND PERRANZABULOE." By FANNIE GODDARD. (Published by the Homeland Association for the Encouragement of Touring in Great Britain, St. Bride's Lane, Fleet Street, E.C.) This is No. 27 of the Homeland Handbooks, and is well up to their usual level of excellence. It is meant to

serve as a "sympathetic companion to the cliffs and headlands around Newquay," and should serve this purpose well, as it treats pleasantly of an interesting corner of Cornwall. The natural features and natural history of the place are dealt with, and the various interests that await the intelligent visitor. We are glad to be referred to local directories for information concerning church services and public institutions, and so to have a smaller handbook, more convenient and portable. There are a few blank pages for notes, and a map reduced from the Ordnance Survey map of the neighbourhood, that add value to the publication.

DEPUTATION TO CARDIFF.—The Cardiff and County Horticultural Society's Show took place on Wednesday and Thursday last in the Sophia Gardens, Cardiff. On Wednesday there was a deputation from the Royal Horticultural Society, including Mr. F. G. LLOYD, Rev. W. WILKS, M.A., and Mr. S. T. WRIGHT. We hope to give some details of the exhibition in our next issue.

DESTRUCTION OF PLANTS IN GARDENS IN ABERDEEN.—Much indignation is being felt in west-end circles in Aberdeen, writes an Aberdeen correspondent, at the destruction caused in gardens by midnight prowlers. These persons have torn up and scattered about almost everything they could lay their hands upon. Their object has not been theft, as the more valuable plants and flowers have been left strewn all over the grounds. The absolute ruin for this season of some of these pretty gardens seems to be entirely malicious. One night recently, in the suburb of Queen's Cross, at least ten different gardens were visited by the scoundrels, and the whole of the beautiful and expensive plants which these gardens contained were torn up, tossed about, and trampled upon. Some idea of the destruction committed may be gained, says our correspondent, when it is stated that at one house at which I called, and which has a very small garden, the owner estimated the damage done at over £5, without taking into consideration the loss of the pleasure he derived from his garden. The loss entailed upon those with large gardens must be exceedingly great. In one case a long length of garden hose was destroyed, and after dragging it all over the ground as an implement of destruction, they left it lying in a side street. As may be supposed, elaborate precautions have been taken by the police authorities—precautions, it is sincerely to be hoped, that will lead to the capture of the delinquents.

KITCHEN-GARDEN PESTS.—The number of the *Profitable Farm and Garden* for July 11 contains a coloured plate representing the Asparagus-beetle, the Carrot-fly, the Celery-fly, and the Onion-fly.

NEW BORDER CARNATION.—Mr. G. F. BROTHERSTON, of Breckenborough Hall Gardens, Thirsk, sends for our inspection blooms of a seedling Carnation of a somewhat unusual shade of colour. The flower is of good form and substance, and of a rich orange-salmon colour. The calyx does not split. Altogether we think highly of this Carnation, to which, under the name "Franeis Samuelson," a First-class Certificate was awarded at the York Gala on June 24. (See also p. 56.)

PRESIDENT ROOSEVELT AT HOME.—The *Pacific Florist* for July has a portrait of the President of the United States, with axe on shoulder, on his way to fell a tree, Gladstone-wise, at his summer residence, Oyster Bay, New York.

"THE WILD GARDEN."—The thing is so full of interest and beauty that we are not disposed to cavil at the name, in spite of its inappropriateness. To many, indeed, if not always to the professional

gardener, it has charms which no garden in the proper acceptance of the term could rival. It is the place for the plant-lover and the botanist to revel in. For these reasons we welcome the publication of the fifth edition of Mr. ROBINSON'S book under the above title, published by JOHN MURRAY. It contains abundance of useful hints for the utilisation of hardy plants, native as well as exotic, numerous pretty wood-cuts, and a copious index.

JOHN EVELYN CLUB.—With this very appropriate title for a Surrey society, and under the presidency of Mr. T. G. JACKSON, R.A., with Messrs. CLARENCE MORAN and RICHARDSON EVANS as honorary secretaries, a club has been established at Wimbledon to unite all residents who value grace, dignity, and interest in the aspect of their surroundings (1) in protecting from unnecessary impairment the picturesque amenities of the neighbourhood; (2) in promoting the study of its historical associations, zoology, and botany; (3) in preserving the fauna and flora, as well as objects of historical and archaeological interest. The club will act locally so as to advance the objects of such societies as the Commons and Footpaths Preservation Society, the Kyrle Society, the Selborne Society, the Birds' Protection Society, the National Trust, &c. We wish it every success. *Nature Notes*, July.

LATE STRAWBERRIES.—Prolongation of the season, flavour, free cropping, hardihood, freedom from disease, and substance, so as to endure transport, these are among the requirements which the raiser of new Strawberries pays heed to. Some of these points are of special consequence to the grower for market, but none of them is a matter of indifference to the grower of Strawberries for whatever purpose. We were reminded of these matters by the receipt from Messrs. BUNYARD & Co. of a collection of late fruits grown in the open field. Strawberries are not particularly well adapted for railway transit, and these particular samples did not reach us in first-class condition, but we were enabled nevertheless to form some opinion of their merits. Among them were:—

Givons Late Prolific, a new kind, of great value as being late, of good size and flavour. It is a handsome, wedge-shaped or sometimes cock's-comb-shaped fruit, often lobed, of a rich colour, juicy, and of good flavour. As the plants are still bearing flower, its merits as a late variety are incontestable.

Louis Gautier is a very prolific variety, with large, wedge-shaped fruit, whitish, very juicy, and of good flavour.

Queen of Denmark is a late variety, with fruits of moderate size, and flavour of the Alpine section.

Frogmore Late Pine, a deliciously-flavoured variety, of large size and a very dark colour.

Filbert Pine, a prolific variety, late, and of medium-size and flavour, conical in shape.

DR. ABEL, Director of the Imperial and Royal Horticultural Society in Vienna, died at Mönnichkirchen on June 28.

A GENEROUS LANDOWNER.—We are glad to hear that LEOPOLD DE ROTHSCHILD, Esq., of Gunnersbury House, Acton, has just remitted fifteen per cent. of the half-year's rent to the market gardeners upon his Gunnersbury estate, on account of the extraordinary loss they sustained by the destruction of the fruit crops by late frosts. It is a happy instance of a landlord voluntarily sharing the misfortunes of his tenants.

CROYDON AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—"Tomatos" was the subject of a paper given before the members of this Society, at their rooms, Sunflower Temperance Hotel, George Street, recently; and the mode of culture recommended by

Mr. F. OXTOBY, Coombe Lodge Gardens, found hearty appreciation from all present. Mr. A. MASLEN will give the next paper, "Summer Pruning," on August 18.

ROYAL APPOINTMENT.—Messrs. THOMAS METHVEN & SONS, of 15, Princes Street and Warriston Nurseries, Edinburgh, have been appointed nursery and seedsmen to His Majesty the KING. The firm formerly held a Warrant from her late Majesty Queen VICTORIA.

THE GARDENERS' DINNER.—All those gardeners and others who purpose attending the Gardeners' Dinner at the Holborn Restaurant on September 29 will be interested to learn that the famous rosarian and amateur gardener, Dean REYNOLDS HOLE, of Rochester, has not only secured a ticket, but trusts that all being well he will be present. The Dean is a devoted lover of a garden, and he has only warm feeling for those who make and tend them. Many a gardener isolated from society in some remote spot has heard and read of the Dean, but may have never seen him. It is sincerely to be hoped that not only will he be present to support Mr. LEOPOLD DE ROTHSCHILD, but that hundreds of gardeners will be there to give both a hearty welcome. The chance to attend such a function offers only once perhaps in a lifetime. Already some 200 tickets have been sent out.

A MOTOR LAWN-MOWER.

So far as can be seen at present the motor is destined to become as common in our roadways as horse-drawn vehicles have been, and there appears no reason why it should not be employed also for cutting grass in gardens where there are extensive lawns. We have previously illustrated a lawn-mower provided with an electric battery for propelling purposes, also a lawn-mower driven by steam (see *Gardeners' Chronicle*, March 28, 1896, p. 401), and in fig. 24 is shown a petrol-driven machine manufactured by Messrs. Ransomes, Sims & Jefferies, Ltd., Orwell Works, Ipswich, who are amongst the first to anticipate a demand for an improved type of machine.

Amongst the advantages possessed by this machine are the following. There is no delay in starting, as in the case of a steam-motor, but it can commence work in five minutes. There are no coils or electric batteries employed for ignition, and no hoof-marks are left on the turf. One man can manage the motor lawn-mower with ease; and, riding on the motor, he can get over much more work during the day than when using a horse-power machine and walking behind it; and there is no need for the boy usually employed to lead the horse. The machine can be stopped or its direction turned without difficulty. There are smaller motor machines which are not provided with a seat for the driver.

HOME CORRESPONDENCE.

A PLEA FOR THE MOLE.—A writer in a recent issue of the *Daily News* says that "farmers owning much pasture land do not speak highly of the mole." That is quite true; there is a venerable and obstinate prejudice to overcome; but facts are facts, and text-books and works of reference clearly prove that the mole is not a destructive animal. M. Flourens states that the mole, if not exclusively, is essentially carnivorous, and probably the most voracious eater in the animal kingdom. He feeds on worms, snails, slugs, caterpillars, cockchafer grubs, and many other subterranean and surface creatures. Mr. R. A. Sterndale, F.Z.S., in his work on the *Mammalia of India*, says that moles are not trapped in India, and that their destruction in this country is carried on in a spirit of ignorance. Macgillivray, an observant naturalist, regarded the mole as a useful animal. I think it was Frank Buckland who called

attention to the fact that wherever moles have been the grass grows afterwards very luxuriantly. Miss Ormerod and Sir Herbert Maxwell have also written to the same effect. The Board of Agriculture publishes a leaflet on the habits and life-history of the cockchafer, in which it is stated: "Moles and shrew-mice feed upon cockchafers, and both of these animals should be protected." Moles, instead of being the farmer's foes, are really his friends; and we may yet see laws passed to save him from extermination at the hands of his senseless persecutors. "Certain it is that in the present depressed condition of agriculture" (to quote from an article in the *Nineteenth Century* by the Rev. Augustus Jessop), "it is difficult to estimate how much serious mischief is being done by the extermination of one of the farmer's best and most influential friends, the mole." Joseph Collinson, 53, Chancery Lane, W.C.

SWEET PEAS.—I was interested to find that the experience of J. J. Cole (p. 3) with Sweet Peas was similar to my own. I was one of the fortunates who last year obtained a white Pea from a packet of "Miss Willmott," bought from the firm of Eckford, and I cannot believe it was the result of accidental mixing of two varieties, but was a sport or reversion from "Miss Willmott." I saved seeds from this, but did not notice whether the seeds were of different colours. All the seeds were sown and carefully cultivated, and all have now without exception pure white flowers—in size, shape, and habit of growth the counterpart of "Miss Willmott." However, all



FIG. 24.—A MOTOR LAWN-MOWER.

these points are not proof of its relationship. That proof is to be found in the fact that in a clump of "Miss Willmott" I have again a white flower identical with last year's novelty. In saving seeds I avoided all chance of mixing varieties, so I am persuaded that reversion to an earlier parent is the explanation of its appearance. In spite of careful selection "rogues" are always to be found, and I notice that these "rogues" are generally of a purple-maroon colour, or shades between that and the blue of "Captain of the Blues." This year the variety "Emily Henderson" has amongst it about 20 per cent. of the old "Apple Blossom," a variety I have not grown for five years. This seems to me to be proof that the two varieties have a common ancestry. The cross-fertilising of "Emily Henderson" would not account for "Apple Blossom," for I believe the latter is a much older variety than the white. If the "rogues" were the result of cross-fertilisation one would expect that the colours would be progressive, but I have not met with a "rogue" of a new shade, they are always similar to very old varieties. Many writers say that natural cross-fertilisation is impossible, because insects are unable to force their way to the stigma. This is an error. When a bee alights on a flower its hind-legs work up and down until the keel of the flower is pressed down from the stigma, and the bee collects pollen from the exposed stamens. That the flower is not cross-fertilised is certainly not the fault of the bee. The reason is without doubt the greater potency of its own pollen to effect fertilisation, compared with that from a foreign flower. In fact it is a case where the law of cross-fertilisation does not always hold. It follows then that for a flower to become cross-fertilised it

must first be deprived of its stamens before foreign pollen can have a chance to operate, but this being done cross-fertilisation is possible, though perhaps not easy. John T. Blencowe, "Eastcott" Gardens, Kingston Hill.

—The communication from Mr. J. J. Cole re Sweet Peas in your issue of July 4, is a most interesting one. He has now arrived at the opinion that Mr. John Green and I once held regarding the origin of "Dorothy Eckford." The following statement may be interesting to those interested in Sweet Peas:—The first year "Miss Willmott" was sent out, Mr. Robert Sydenham told me to be on the look-out, as there was either a pure white mixture or a sport in that variety. My firm grew a number of plants at Rothsay, and among them one carried white flowers; but it was not possible to save seed on account of the wet summer. At Orpington an equal number was grown, but no trace of white flowers appeared there. The following season my firm had at Orpington a number of white-flowered forms in a long line of "Miss Willmott" (grown from seed saved by themselves), and was able to exhibit it at Wolverhampton under the name of "White Queen," where it obtained a certificate. Mr. Green also exhibited the same form under the name of "White Wings" in the Eastern Counties, and also obtained a certificate for it. When the matter came before the National Sweet Pea Committee at the time referred to by Mr. Cole, these facts were in the minds of the members. I made a statement at that meeting that in my opinion the variety was a sport, and Mr. Green confirmed this view. It was represented by a member (Mr. Simpson, I think) that it had been raised or selected a year or two previously by Mr. Eckford, and the seed of it and "Miss Willmott" had got inadvertently mixed. Ultimately, after a lengthened discussion, it was agreed to refer the matter to Mr. Eckford, and the Secretary was instructed to ask him for a declaration on the subject; and the decision of the committee was that if Mr. Eckford declared that he had had a stock of the two varieties, and that they had been accidentally mixed, he should have the credit of the variety, and it should officially bear the name of "Dorothy Eckford." None of us desired to rob Mr. Eckford either of the profit or of the credit of the transaction. Mr. Eckford made the declaration, and the matter was settled. Mr. Cole is therefore not quite correct in saying that "the decision of the National Sweet Pea committee was that it was the result of an accidental mixing of the seeds of a new white variety with that of 'Miss Willmott.'" It was not the decision of the National Sweet Pea committee *de facto*; it was the decision of Mr. Eckford. The scientific interest of Mr. Cole's communication is very great indeed, and I hope to have something to say on the question of [seed] sports later in the season. William Cuthbertson, of Messrs. Dobbs & Co., Rothsay. [Has any one seen a true sport or bud variation in the Sweet Pea or any other annual? Ed.]

MELON AND CUCUMBER LEAF-SPOT.—Mr. Stephen Castle, writing in last week's issue of the *Gardeners' Chronicle* (p. 34), says, "This new plague of the gardener, for which apparently no remedy can be found, starts usually in damp or dull weather, and at the end of the house nearest to the door," adding, "that with sunshine it spreads very rapidly." As the statement appears to be somewhat inconsistent with the apparent cause and effect, I am sure that many growers, including myself, would be glad to learn from Mr. Castle how it is that the "spot," if caused through the implied influence of damp or dull weather, comes to spread "very rapidly" under the beneficial influence of sunshine. Mr. Castle also asserts in the last paragraph of his interesting note that "if Cucumbers could be grown on the old lines we should hear nothing of the 'spot,'" adding that "the grower must needs take two crops in a limited period of time, and that his (the grower's) methods account to his thinking the why and wherefore of the prevalence of the disease." Will Mr. Castle kindly explain for the benefit of growers of Cucumbers for market the manner in which Cucumbers were grown on the "old lines," also the method of procedure followed by the

growers of to-day, and at the same time give his reason for saying that the *modus operandi* pursued "accounts to his thinking the why and wherefore of the prevalence of the disease," as the bare assertion of facts or of assumed facts is of no practical use to readers unless reasons are adduced showing cause and effect, and suggesting a remedy? Bare assertions are insufficient to convey information to those desirous to learn the why and wherefore of any undesirable symptoms on their plants, &c. H. W. W.

OUT-OF-DOORS PLANTS INJURED VARIOUSLY.

—The specimens we are enclosing herewith we have had forwarded to us from a correspondent resident in Herts. He has sent them for opinion and determination of the causes from which they appear to be suffering, principally a wrinkling and browning of the foliage. He informs us that the gardeners in his locality term it the crimping-and-browning disease. It first made its appearance in 1899, and was then confined to a few things; but now it has spread to almost every plant inside and out, making it, we understand, an impossibility to grow any plants. Even the weeds suffer from the same cause. It appears to us to be a somewhat singular case, seeing that the damage is spread over trees, shrubs, and indoor plants alike, and we should be happy if you could give us your opinion upon the matter as to what is the cause or causes of this so-called disease. Also if you can determine its nature. Are there any remedial measures that could be applied to prevent its further spread? If you would kindly oblige us through your correspondence columns we should esteem it a favour. We have kept a duplicate of each number. C. S. [We append a reply from our authority on plant diseases to the various questions asked in the above communication. ED.]—"It is not one particular disease affecting all the plants sent, but several, quite distinct in their nature and origin. 1. Plane-leaf scorch, caused by *Gloeosporium nervisequum*; collect and burn the leaves as they fall, and next spring spray with dilute Bordeaux-mixture when the leaves are expanding. 3. Caused by an aphid or "green-fly"; spray with an insecticide. 6. Foliage injured by late frosts. 7. Injured by "green-fly"; spray with insecticide. 8. Attacked by the fungus called *Botrytis vulgaris*; spray with potassium sulphide solution—1 oz. in 2 gallons of water. 9. Foliage injured by frost. The remainder are undeterminable from the material sent. G. M."

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES' CRICKET-MATCH.—This event, in which members of the Floral and of the Fruit Committees contended with each other for fun and fame on the bloodless cricket-ground at Gunnersbury Park last summer, the Fruit men proving the winners, is this year to have its replica on Saturday, August 8 next, the place of the contest being the ground at Holland House, Kensington, with the Earl of Ilchester's kind sanction. Messrs. W. Howe for the Floral team and the challengers, and that fine fruit-grower, Mr. G. Woodward, for the other team, will be the valiant and respective captains. The wickets are to be pitched at 11 a.m., luncheon at 1 p.m. Every member of either Committee is invited to play, and should do so. Members of all the Committees are invited to come with friends and see fair-play, as well as enjoy it. All communications should be addressed to Mr. T. Humphreys, Royal Horticultural Gardens, Chiswick. W.

SAXIFRAGA OPPOSITIFOLIA EATEN BY BIRDS.

—It is said that a favourite food of some of the sandpipers and suchlike birds which breed in the Arctic regions is the leaf-buds of *Saxifraga oppositifolia*. This evening I found what was apparently a homing pigeon, very tame, and seeming to be tired, in one of my Alpine frames, feeding upon the leaves of that plant, and apparently so well satisfied with his fare as to refuse coarse oatmeal which I offered, but continuing to pick the Saxifrage. Has any reader of the *Gardeners' Chronicle* observed that any birds are partial to this green food? If the wood-pigeons and stock-doves which abound round my garden find out that it is good, I am afraid there will not be much of it left by the end of winter. C. W. Dod, Edge Hall, Malpas.

BEGONIA CORALLINA.—This species of Begonia is not nearly so well known as it deserves to be on account of its free-flowering property. At Roundhay Park, Leeds, it has formed the chief centre of attraction during the past few weeks. The plant is trained on either side of the roof of a span-roof plant stove, a position which shows off its blossoms admirably. On the occasion of the visit I paid to the park on the 19th inst. this plant was in full bloom. The plants are planted in boxes filled with turfy loam, peat, leaf-soil, and a small quantity of decayed manure, and a sprinkling of rough sandstone. Many of the present season's shoots measure 3 feet in length. J. F. Donoghue.

POA ANNUA.—Fair comment on one's sayings is a point I admire, but is it honest criticism to take a few words from a paragraph and play upon them as representing the full context of another's arguments? Mr. Castle handles me very uncharitably on p. 43, yet, notwithstanding his desire to act as a tutor, I prefer to stand by the statements on p. 26, save the word "from," which the printer changed from "in." When referring to the seeds of *Poa annua* I wrote as a commercial man, and intended to convey that this grass was not obtainable as a seedman's commodity; and this I still adhere to in face of the paragraph appearing on p. 41. I also feel that I have as much right to call *Poa pratensis*, Kentucky Blue Grass, as Mr. Castle would have in describing Wellington Apple as Dumelow's Seedling. But all this is beside the question that grass seeds are being sold as *Poa annua* which are not true to name or description. Donald McDonald.

THE STRAWBERRY-GRAPE.—At the Drill Hall on Tuesday last I exhibited six fine bunches of Strawberry-Grapes. They had not been at all thinned, and in spite of that the berries were of a respectable size. Had they been thinned by an expert the berries would have been much larger, and probably comparable with those of Black Hamburgh. It seems a pity that this richly-flavoured Grape should not be more grown by amateurs, if not for market. In the autumn I shall be able to supply cuttings of this choice Grape, and perhaps some rooted plants also. Should anyone care to try it, I shall be glad to send some to him or her. It is prolific, and sets extremely well. At all events, for home consumption, it would be an acquisition. There is an extraordinary Grape with berries upwards of 1½ inch long. It is called "Cornichon," of two varieties, white and purple, of which a picture appeared in the *Bulletins d'Arboriculture*, &c., published in Ghent. If experiments were made to cross this with the Strawberry Grape something still more extraordinary and choice varieties might be the result. It is almost hopeless to expect professional horticulturists to undertake such experiments. They grow things for profit, and therefore cannot afford the time and glass-room for experiments that may or may not succeed. This branch of scientific horticulture is essentially the function of [Chiswick and of] wealthy amateurs who have extensive grounds and houses and an expert establishment. The seedlings, after all, would not require very much space to test their values, for grown on the single cane system, a large number could be accommodated in one long house. Then there would be the additional satisfaction of giving to the world a new and valuable Grape, should any of the crossed seedlings turn out an acquisition. Do wealthy amateurs do as much as they could do for the progress of Horticulture? They have wealth and accommodation, and probably ignore their function in the higher branches of horticulture—that is, the creation of new fruits and other things. E. Bonavia, M.D., July 22, 1903.

CARNATIONS AT LEIGHTON HOUSE, WEST-BURY.

—A successful cultivator of the Carnation in this neighbourhood is Mr. Geo. Bound, head gardener at Leighton, whose display for several years past of Tree, Souvenir de la Malmaison, and border varieties in their respective seasons has been unusually good. One division in a range of glass is devoted almost exclusively to Carnations in pots, the health of which and the vigorous spikes and large, deeply-coloured blooms betoken careful cultivation. Fungous diseases, which cause so much havoc among Malmaisons

in many gardens, is scarcely remarked here, a weekly spraying of Condy's fluid in a diluted state keeping down this pest so successfully that but little injury is done. The robust health of the plants also tends to ward off attacks, and if a case should occur the plant receives immediate attention. The house, a three-quarter-span, is well ventilated, and is fitted with roller-blinds, which are employed in sunny weather. Though some of the newer introductions are included in the collection, the old Blush still remains the favourite variety. The deeper-coloured Rose Malmaison is also a conspicuous variety in its season of blossom. Iolanthe, Lady Ulrica, Lord Welby, Mrs. Torrens, Princess May, Churchwarden, Sir Evelyn Wood, and Lady Grimston are a few I noted as giving bold and bright blooms. Tree varieties, viz., Uria Pike and Bendigo, are much grown for cutting and as pot plants for conservatory decoration. Many named border varieties, like the potted stock of Carnations, are successfully treated. Here, as in many other places, complaint is rife about the injury due to the inclement weather, the excessive rain and cold winds being more destructive than actual frost. W. S.

ALYSSUM SPINOSUM.—Those who have not been so successful as Mr. S. Marshall Bulley in cultivating *Alyssum spinosum* would be pleased to read his note on the plant in the *Gardeners' Chronicle* of July 18, and to see the photograph reproduced on p. 42, which shows such a fine plant. It is pleasant to see that a plant with which a good many of us have not been so successful as we would desire is doing so well at Haslemere. One can only speak of plants as one has found them and as others have recorded, so that such notes as those of Mr. Bulley are exceedingly valuable. S. Arnott.

SOCIETIES.

ROYAL HORTICULTURAL.

JULY 21.—The usual fortnightly meeting of the Committees on Tuesday last was not the only attraction at the Drill Hall on that day. There was an unusually fine exhibition of Carnations, under the auspices of the National Carnation and Picotee Society. The date happened to be a suitable one to catch the flowers in fine condition, and they appeared at their best. A detailed report is given on p. 65.

The Royal Horticultural Society's Show was necessarily smaller than usual, there being less space available.

The ORCHID COMMITTEE recommended a First-class Certificate, a Botanical Certificate, and an Award of Merit to novelties, and only one Medal for a group of plants.

The FLORAL COMMITTEE recommended one First-class Certificate and five Awards of Merit to novelties, and nearly a dozen Medals for groups of plants, including Carnations.

The FRUIT AND VEGETABLE COMMITTEE recommended a First-class Certificate to the Loganberry.

In the afternoon a considerable number of new Fellows was elected; and a LECTURE was given by Mr. HUNT upon "Horticulture in New Zealand."

Floral Committee.

Present: H. B. May, Esq., in the chair; and Messrs. C. T. Drury, John Green, J. F. McLeod, W. Howe, C. R. Fielder, Chas. Dixon, W. Bain, C. J. Salter, H. J. Cutbush, R. W. Wallace, Chas. E. Pearson, H. J. Jones, Charles E. Shea, W. P. Thomson, E. H. Jenkins, Geo. Paul, W. J. James, A. Perry, Chas. Jeffries, E. T. Cook, J. Fraser, Jno. Jennings, R. Dean, James Hudson, and H. Turner.

The Chairman, speaking on behalf of the members of the Committee, expressed regret that the Committee will shortly lose the services of the Secretary, Mr. Thomas Humphreys, who has acted as such for the past eight years, and wished him every success in his future sphere of work as Curator of the Birmingham Botanic Gardens.

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, N., exhibited a collection of cut Roses, in about forty varieties, large bunches of each being arranged in vases. Some of the most attractive were Mrs. W. J. Grant, shown as Belle Siebrecht; Madame Ravary, a salmon-coloured H.T.; Louis van Houtte, the intense crimson-coloured H.P.; Gruss an Teplitz, rich velvety

crimson H.T.; Frau Karl Druschki, the new white H.P.; Duke of Edinburgh, Royal Scarlet, Horace Vernet, &c. (Silver Banksian Medal).

Messrs. W. PAUL & SON, Waltham Cross Nurseries, Herts, exhibited a large collection of decorative Roses. Excellent growths and flowers of the new H.P. Frau Karl Druschki were conspicuous among the many varieties shown, and a new Tea Rose named Earl of Warwick was shown, the flowers being of large size and a salmon shade of pink in colour. One of the brightest coloured bunches was one of the Tea Rose Souvenir de J. B. Guillot, rosy-scarlet (Silver Banksian Medal).

An excellent exhibit of Water-Lily flowers was made by LAWRENCE CURRIE, Esq., Minley Manor, Farnborough, Hants. They were all varieties of *Nymphæa*, and were arranged in large earthenware pans of

chester, had an exhibit remarkable for its splendid seedling varieties of *Iris Kämpferi*, which varied in colour from pure white to intensely deep purple. These were only distinguished by numbers at present. Lilies included *L. longiflorum giganteum*, the yellow *L. Szovitzianum*, *L. elegans*, the elegant and pretty *L. Krameri* (of palest pink colour), *L. excelsum*, *L. Martagon dalmaticum* (intense purple colour), *L. auratum*, &c. *Calochortus clavatus* is a very large fine yellow species. *Gladiolus Colvillei* varieties, Pentstemon "Newbury Gem," perennial Phlox "Fiancée" (white), &c., were also noticed in this exhibit (Silver Banksian Medal).

A collection of upwards of thirty varieties of Sweet Peas was shown Lady PLOWDEN, Aston Rowant House, Wallingford (gr., Mr. Black).

yet seen of the new *Passiflora maculifolia*, which was figured in a Supplement to the *Gardeners' Chronicle*, November 8, 1902. The three-lobed, truncate leaves were larger, and the yellow and purple variegation more highly developed. It is remarkable that the Floral Committee should have passed such a decorative new species.

An excellent strain of Sweet Williams was shown by Messrs. DOBBIE & Co., Rothesay, as their "Auricula-eyed" strain. The flowers were good, and the colour pure and brilliant. The Committee awarded a Cultural Commendation.

Messrs. JAS. VEITCH & SONS, Ltd., Chelsea, S.W., showed a floor group of warm-house *Rhododendrons* (*Javanicum* and *Jasminiflorum*) in variety, the plants having a height of 2 to 4 feet, and being generally

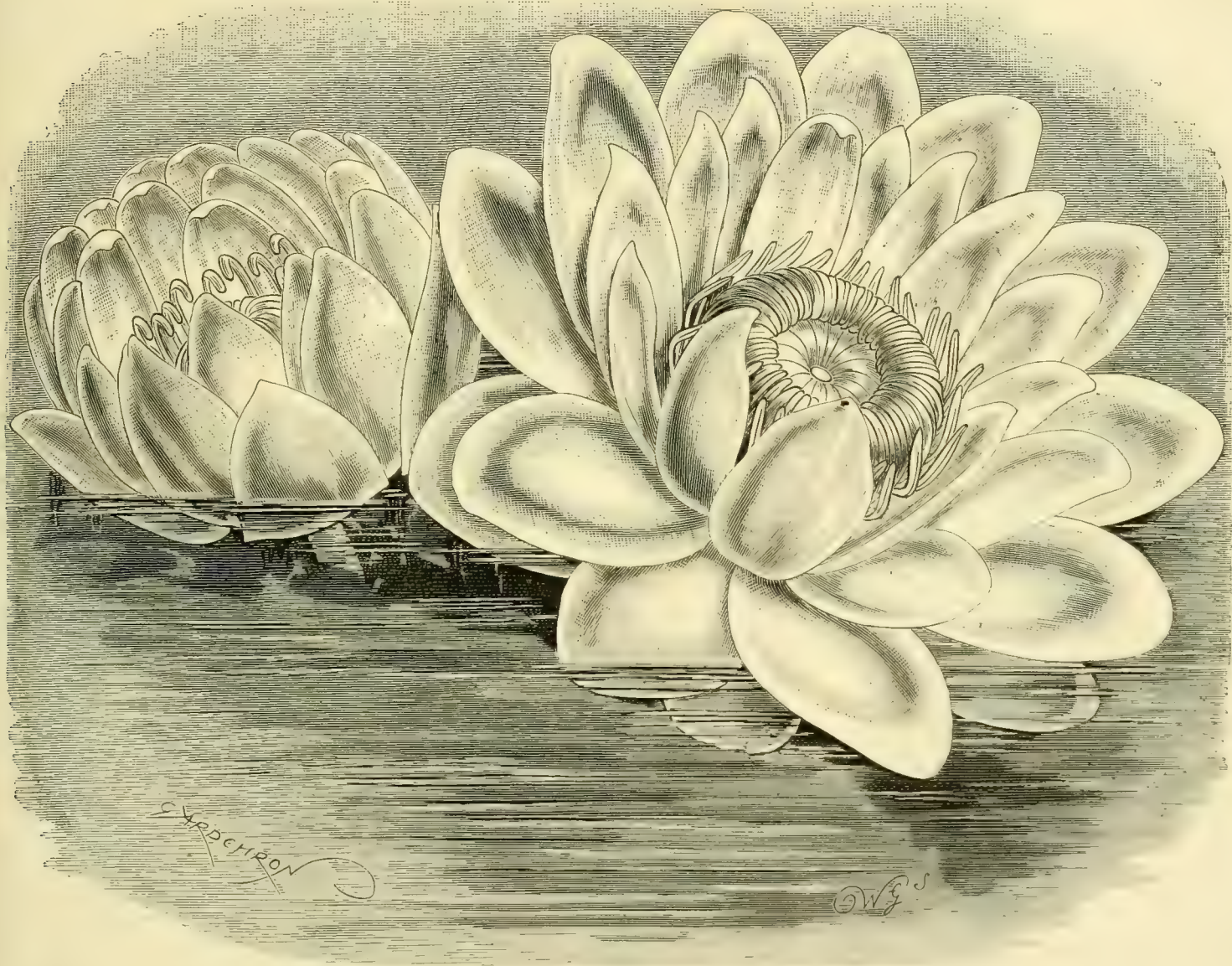


FIG. 25.—*NYMPHÆA GIGANTEA*: COLOUR PALE BLUE; HALF NATURAL SIZE.

water, containing *Nymphæa* foliage in a similar manner to that Mr. HUDSON has adopted for some years past. There were twenty-four pans, and in some of these as many as ten open flowers were shown. The most showy of those shown were *Nymphæa Marliacea albida*, *N. m. carnea*, *N. m. rosea*, *N. albacandidissima*, *N. Laydekeri rosea*, *N. Ellisiana* (rich red colour), *N. odorata sulphurea*, and *N. Marliacea chromatella*, both pale yellow-coloured flowers, &c. The flowers were unusually large and strong (Silver Flora Medal and Cultural Commendation).

Messrs. WM. BULL & SON, 536, King's Road, Chelsea, exhibited a number of varieties of *Fuchsia*, the plants being in 5-inch and 6-inch pots. Some of the most attractive were Prince of Orange, Nautilus, Burel, Lena, Muriel, and Valiant.

Messrs. R. WALLACE & Co., Kilnfield Gardens, Col-

Mr. H. B. MAY's exhibit of Ferns from the Upper Edmonton Nurseries on this occasion was a collection of species and varieties of *Gymnogrammas*, thirty-six distinct forms being included. Prominence was given to beautiful specimens of *G. schizophylla gloriosa* and *G. s. g. superba*. The much-crested, heavily-powdered forms included *G. chrysophylla ramosa* and *G. grandiceps superba*, both gold coloured; *G. peruviana cristata* and *G. p. argyrophylla* are equally powdered with silver colour. A striking difference from these types was shown in *G. japonica variegata*, this species having a superficial appearance akin to that of a *Pteris*. Altogether, the exhibit was full of interest to those who admire Ferns, and it included the rare *G. Muelleri* (Silver Banksian Medal).

Sir TREVOR LAWRENCE, Bart., Burford, Dorking (gr., Mr. Bain), exhibited the best cultivated plant we have

well furnished with flower trusses. We noted Princess Beatrice, pinkish fawn, a fine large truss; *R. multi-color Latona*, flowers canary-yellow, a neat truss; Lord Wolseley, possessing a telling truss, well furnished with orange-red coloured blooms; *Ophelia*, of light rose, with a yellowish shade; Indian Chief, an orange-coloured flower; Ne Plus Ultra, flowers of brilliant scarlet, one of the most vivid coloured varieties; Princess Alexandra, still one of the most beautiful, white with a pink tint; Amabile, flowers light pink and of large size; *Javanicum*, one of the parents of this breed; Imogene, flowers of a pale primrose tint; luteo roseum, soft rose; and Monarch, of a deep orange tint. The firm likewise arranged a floor group of hardy herbaceous perennials as cut flowers, set up in big bunches in vessels of water. There were the bright yellow *Heimeroallis Thunbergi*, *Centaurea*

ruthenica, Achillea eupatoria, having massive flat corymbs of yellow flowers; Galega officinalis albiflora, Chrysanthemum maximum var. Triumph, showing some doubling of the florets; Achillea Millefolium rubrum, Dracocephalum virginicum album, Centaurea glastifolia, having yellow flower-heads; Campanula alliariaefolia, a species with long spikes of white flowers; the double-flowered var. of Hemerocallis disticha, Rudbeckia californica, Cimicifuga racemosa, some very fine strong specimens of Lychnis chalcidonica, Pentstemon, Everlasting Peas, Enocheras, Phloxes, Geraniums, Veronicas, &c.; also a collection of Sweet Peas (Silver-gilt Flora Medal).

Messrs. H. CANNELL & SONS, Swanley, Kent, showed a quantity of tuberous-rooted Begonia in double forms of flower, and single flowered bedding varieties of varied shades of crimson, pink, and bluish, the latter grouped under the name Eureka. Amongst the first named we remarked Gen. Baden-Powell, deep crimson, of a beautiful form, double; Lord Milner, also double-flowered, of a rich magenta; King Humbert, a scarlet flower that often comes with several centres; Lord Stradbroke, similar in form of flower and colour to Gen. Baden-Powell; Lady Mary Leyland, a fringed flower, nicely double, and of a cherry-red colour; Mrs. Thompson, pale yellow, very distinct.

Messrs. BARR & SONS, King Street, Covent Garden, set up a stand that included among its attractions a piece of Japanese rockwork consisting of cement, and furnished with pigmy trees and Azaleas in flower. The other exhibits consisted of hardy herbaceous perennials, such as Lilliums, Enocheras, Achilleas, Iris Kämpferi in variety, Dianthus Napoleon III., having bright-crimson flowers; a good many varieties of Phlox, Helianthus, Lychnis chalcidonica, Campanulas, Shirley Poppies, a few Water-Lilies in pans of water, Androsace coronopifolia Brodiaeas, &c.

Mr. AMOS PERRY, Hardy Plant Farm, Winchmore Hill, showed Water-Lilies Laydekeri, Mariacea varieties, the fine rich coloured Nymphaea Ellisiana, N. Seignouretii, rich pink; N. chromatella, Robinsoni, Gladstoniana, white, with vivid yellow central petals; N. gloriosa, deep crimson; N. Brakleyi, and several others. Other subjects shown consisted of Geum Heldreichii, Lilies of species, Campanulas, varieties of C. lactiflora and the type species (Silver Banksian Medal).

Awards.

Asparagus plumosus cristatus.—This is a crested variety of the best-known decorative Asparagus. The growths terminate before they are much more than 12 inches high in a great crest like that possessed by varieties of Pteris Fern. It is not likely to be so attractive or useful as the type. Shown by Sir TREVOR LAWRENCE (Award of Merit).

Begonia Marie Bouchett is a variety of Begonia with bright-red double flowers. It partakes of the B. boliviensis type in regard to the arrangement of the stamens, and in this case all the stamens having become petals the flower appears like a bright rosette over two large ordinary petals. Amongst Begonias it may take a place as a decorative flower similar to that of the Japanese flowers in the Chrysanthemum. A large plant covered with blossoms was shown in a basket, for which form of cultivation it is specially suitable, the growths being of a straggling character 3 to 4 feet long. Shown by W. GREENWELL, Esq., Marden Park, Woldingham (gr., Mr. W. Lintott), (Award of Merit).

Lilium elegans, Peter Barr.—An excellent variety of this popular Lily, colour orange-yellow with very few spots, as described on p. 41 of our last issue. The flowers are very large, and the petals broad, recurving a little at the tips. Shown by Messrs. BARR & SONS (Award of Merit).

Nephrolepis Fosteri.—An American variety of N. exaltata, producing fronds 3 feet long and nearly 8 inches across. After making the ordinary pinnæ, there occurs proliferation, each of the pinnæ producing small fronds, again bearing normal pinnæ. The variety is said to reproduce itself truly from spores. Shown by Messrs. J. HILL & SON, Lower Edmonton (Award of Merit).

Nymphaea gigantea var. Hudsoni.—This is a seedling variety of the handsome blue Nymphaea illustrated on p. 63, fig. 25. It was raised by Mr. J. Hudson in the garden of Leopold de Rothschild, Esq., Gunnersbury House, Acton, W., and has larger flowers than those of the type and deeper in colour. The petals are of greater breadth and are more reflexed. Whilst the flowers of the type are described as lying upon the surface of the water, those of this variety, being borne upon stouter stems, stand erect above the water.

Shown by LEOPOLD DE ROTHSCHILD, Esq. (gr., Mr. Hudson), (First-class Certificate).

Pteris metallica.—This is a strong-growing Pteris with thick, metallic-looking fronds about 14 inches high, the pinnæ being 3 to 4 inches long and an inch across, similar in habit to P. cretica major. Shown by Mr. H. B. MAY (Award of Merit).

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the Chair); and Messrs. Jas O'Brien (Hon. Sec.), De B. Crawshaw, W. Cobb, J. Douglas, H. T. Pitt, T. W. Bond, W. H. Young, W. Boxall, J. W. Potter, H. Little, H. Ballantine, W. H. Pollett, and M. Gleeson.

There was a small but select show of Orchids.

The only group was a very showy one staged by Messrs. SANDER & SONS, St. Albans, and for which a Silver Flora Medal was awarded. The chief feature in the collection was a fine series of varieties of Lælio-Cattleya × Bletchleyensis (L. tenebrosa × C. Warscewiczii), and which ranged from the light rose-purple petalled typical form through various shades of bronzy-rose with purple lip, and culminating in the gorgeous L.-C. × bletchleyensis "Illuminator," which is one of the finest and most richly coloured of the hybrid Lælio-Cattleyas (see Awards). There were also shown varieties of Lælio-Cattleya × Martinetii, all beautiful, but showing great variation in colour. Two plants of the white and rose-coloured Pachystoma Thompsoni, Cattleya Mossiae celestis, like C. M. Reinckiana, but with bluish markings on the lip; the new Lælia × crispa-brosa (crispa × tenebrosa), with light lilac-tinted flowers veined with claret tint on the lip; Cypripedium × barbato-Rothschildianum; the curious and elegant Aeranthes grandiflorus, and other species.

Messrs. HUGH LOW & Co., Bush Hill Park, showed a good Cattleya Mossiae Wageneri, a pretty bluish-white form of C. Mendellii, C. Harrisoniana alba, and Lælia majalis.

Messrs. T. ROCHFORD & Co. showed Cattleya Mendellii King Edward VII., a white variety with chrome-yellow disc to the lip; and a white form of C. labiata Gaskelliana, with a small rose blotch on the labellum.

J. GURNEY FOWLER, Esq., Glebe-lands, South Woodford (gr., Mr. J. Davis), sent a fine cut inflorescence of Eulophiella Peetersiana which had borne twenty flowers, and now had thirteen. Also a beautiful branched spike of Renanthera Storiei with rich red flowers, the large lateral sepals of which were blotched with crimson.

MALCOLM S. COOKE, Esq., Tankerville, Kingston Hill (gr., Mr. Buckell), showed a form of Odontoglossum crispum with lilac-tinted flowers bearing a few brown spots.

Awards.

FIRST-CLASS CERTIFICATE.

Lælio-Cattleya × Bletchleyensis, Illuminator (L. tenebrosa × C. Warscewiczii), from Messrs. SANDER & SONS.—Perhaps the finest in colour of any of its section. Sepals and petals orange-salmon with a purple glow extending from the small whitish base of each segment. Lip entirely of a dark velvety-purple colour, with a maroon veining from the base.

AWARD OF MERIT.

Cypripedium × Utlor (Lawrenceanum ♀ Sanderianum ♂), from REGINALD YOUNG, Esq., Fringilla, Linnet Lane, Sefton Park, Liverpool (gr., Mr. T. J. Poyntz).—The plant from which the flower was taken was shown at the last meeting and described in the *Gardeners' Chronicle* report July 11, 1903, p. 28. The plant, which is a very free grower, has beautiful light-green foliage reticulated with dark-green, and handsome flowers with an Indian-yellow ground colour, the upper sepal having a chocolate-purple central band with five or six dotted dark-purple lines on each side. The petals, 6 inches in length, were arched as in C. Sanderianum, and bore on the lower halves the inverted purple markings as in that species, the outer portions being rose colour. Lip large and of a rosy-mahogany colour. The long ovaries derived from C. Sanderianum display the flowers better than in others of the class.

BOTANICAL CERTIFICATE.

Cirrhaea Warreana, from Messrs. SANDER & SONS.—A singular species, with short, dense, pendulous racemes of insect-like flowers of a yellowish-green tint marked with purple. The singularly formed labellum is white, blotched with purple, the apex being emerald-green with dark markings.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq., in the Chair; and Messrs. Jos. Cheal, Henry Eslings, Geo. Woodward, S. Mortimer, A. Dean, W. Bates, Geo. Kelf, R. Lewis Castle, J. Jaques, C. G. A. Nix, J. Willard, A. H. Pearson, H. Balderson, and Owen Thomas.

Messrs. JAS. VEITCH & SONS, LTD., Chelsea, S.W., exhibited fruits of a new Strawberry raised from a cross between Waterloo and Lord Napier. The fruit is very dark in colour, and similar in appearance to Waterloo. The variety is to be tried at Chiswick.

Mr. WILL TAYLER, Osborn Nursery, Hampton, Middlesex, exhibited six fruits of a Peach named "Libra," a seedling from Early Alexander.

Mr. H. BECKER, Imperial and Cæsarian Nurseries, Jersey, exhibited some large fruits of a yellow Gooseberry named Grouville Giant; also some Perfection type Tomatoes named Becker's Excel-All, of remarkably good appearance.

HOBBIES, LIMITED, Norfolk Nurseries, Dereham, exhibited some fruits of a Cucumis under the name of Lemon Cucumber. The fruits were about the size of small Lemons, with irregular furrowed exterior, and the flesh and flavour almost identical with those of the Cucumber.

Messrs. JNO. K. KING & SONS, Coggeshall, Essex, exhibited a collection of garden Peas, including as many as sixty-four varieties, all in good condition (Silver Banksian Medal).

Awards.

FIRST-CLASS CERTIFICATE.

The Loganberry, which has been described and exhibited so many times, was shown by Messrs. JAS. VEITCH & SONS, who had excellent fruits and plants of same. It is supposed to be a hybrid between the Raspberry and an American variety of Blackberry, and produces fruits an inch long, purplish-black, with a greyish shade over. The fruits are luscious, with a pleasant acidity, and the plants crop very freely.

CHISWICK, JULY 14.—A second meeting of the Fruit and Vegetable Committee was held here on the above date. Present: Mr. Bunyard, in the chair; and Messrs. O. Thomas, W. Bates, H. Eslings, J. Jaques, H. Markham, S. Mortimer, G. Wythes, G. Kelf, and A. Dean.

Prior to the usual business, Mr. Bunyard feelingly referred to the severe illness from which his esteemed colleague Mr. William Marshall is suffering, and suggested that Mr. Wright send him from that Committee a cordial expression of sympathy.

Mr. Bunyard handed round a boxful of fine rich-coloured and capital-flavoured fruits of Mr. Peters' new Strawberry, Givon's Late, which has had a First-class Certificate awarded to it. The sample evoked the warmest commendation. It seems to do remarkably well at Maidstone.

The large collection of mid-season and late Peas was then inspected, and First-class Certificates were awarded to Peerless (Sutton & Sons), a very fine cropping 3-feet marrow of high quality; and to Improved Monarch (C. Sharpe & Co.), a tall, robust variety and a heavy cropper. Awards of Merit were given to Coleman's Favourite, 3 feet high, a very abundant cropper; Webb's Kaiser, 3 feet, pods long, green, and of high quality; Rivenhall Wonder (Cooper, Taber & Co.), only 20 inches in height, a remarkable cropper; Aristocrat (Sharpe & Co.), 4 feet high, of great excellence; Sherwood Forest (Hurst & Son), a fine tall Pea, carrying a great crop of pods; Progression (Jas. Veitch & Sons), tall, and a heavy cropper; and Feltham Gem (Veitch & Sons), 2 feet in height, carrying an abundant crop.

Two breadths of spring-sown Cabbages were seen, but both were irregular stocks, and tending to coarseness. There is a big collection of Potatoes to be seen later, the majority showing robust growth. The trial of Vegetable Marrow plants now looks more promising, the plants, mulched with manure, having made a good start. Kidney Beans also will soon be ready for examination.

RAYLEIGH AND DISTRICT HORTICULTURAL.

JULY 15.—The third annual exhibition of plants, flowers, fruits, and vegetables was held on the above date in a meadow adjoining Rayleigh town, the weather and attendance of visitors being everything that could be desired by the most anxious committee and treasurer.

The exhibits, staged in three marquees, showed in number and quality a great improvement upon pre-

vious years, especially in the Cottagers' classes, which generally were well contested, thereby showing that the efforts of the Society to promote a better knowledge of the cultivation of plants, flowers, fruits, and vegetables, among those residing in this part of the county, are meeting with deserved success.

Mr. A. Mathews, gr. to A. C. CORR, Esq., Barringtons, Rayleigh, was the most successful exhibitor among gentlemen's gardeners. He took nine 1st and four 2nd prizes in the principal classes for collections and specimens of stove and greenhouse plants, exotic Ferns, group of miscellaneous plants arranged for effect, Fuchsias, fruit, &c. The several exhibits staged by Mr. MATHEWS bore evidence of cultural skill, and were clean, healthy, and fresh looking. His half dozen exotic Ferns included excellent plants of *Adiantum cuneatum* and *Nephrolepis exaltata*.

Other successful exhibitors in this class were Mr. W. Denyer, gr. to GEORGE VERNELL, Esq., The Elms, Rayleigh; Mr. Francis, gr. to W. H. CLARKE, Esq., White House, Rayleigh, who took 1st for twenty-four Roses, and 1st for a collection of Sweet Peas, which included good blooms of Lady Grisell Hamilton, Gorgeous, and Salopian; and Mr. Sears, gr. to W. FOX, Esq., Hockley.

In the Ladies' classes for table decorations and bouquets, Miss MABEL TAYLOR took two 1sts and one 2nd for bouquets, consisting of choice flowers arranged to the best advantage. Mrs. and Miss CORR (Barringtons); Miss LONSDALE, Rayleigh House, Rayleigh; Mrs. GRAYSON, The Poplars, Rayleigh (whose elegant arrangement of suitable flowers for dinner-table deserved a higher award); and Mrs. ARDLEY, were also successful exhibitors in these classes, which were well contested, and attracted a good deal of attention from visitors.

FORMBY HORTICULTURAL.

JULY 15.—The Liverpool Horticultural Association has not for several years held its summer show, consequently exhibitors have drifted to other centres. Formby, sheltered as it is behind a huge stretch of sand-hills, may now lay claim to be one of the leading shows. In no other part of Lancashire are Roses so finely grown, and the texture and colour of the blooms are excellent. The inhabitants of Formby are very enthusiastic horticulturists, and the Committee, consisting entirely of gentlemen amateurs who work together amicably, are able to acquire fine prizes, the Rose section alone having for its share eleven Silver Cups.

For twelve varieties distinct, Mr. B. KENNEDY, a noted grower whose garden is one of the sights in the district, staged a grand box, the best of which were Medea, La France, Killarney, A. K. Williams, Captain Hayward, and Duc de Rohan; Mr. F. A. ROCKLIFF, 2nd. Mr. KENNEDY also won with twelve Teas or Noisettes with charming blooms of Maman Cochet, Cleopatra, Kaiserin Augusta Victoria, and Madame Cusin: Mr. F. A. ROCKLIFF was again 2nd.

For a stand of twelve in not less than six varieties, Mr. KENNEDY was 1st with handsome flowers of Empress Alexandra of Russia, Mrs. E. Mawley, and Innocente Pirola. He was also 1st with a splendid vase of La France.

The competition was keen in the other classes, the winners of the higher prizes being Messrs. LUTHER WATTS, T. CARLYLE, T. PUGH, G. LUNT, and G. H. PAGE.

National Rose Society's Silver Medals were awarded for the best blooms to Mr. W. DODD for Caroline Testout; and to T. CARLYLE for blooms of Maman Cochet.

The Sweet Pea class for twelve distinct varieties, not more than twenty spikes of each, brought out six competitors, Mr. W. DODD for the third year in succession securing the valuable Five-guinea Silver Cup presented by Mr. H. Middlehurst, with fine flowers of the following:—Black Knight, Countess of Lathom, Lady Grisell Hamilton, Dorothy Eckford, Salopian, Prima Donna, Gorgeous, Emily Eckford, Miss Willmott, Jeannie Gordon, Hon. Mrs. Kenyon, and Blanche Burpee; Mrs. LUTHER WATTS, 2nd; Mr. E. E. ALLEN, 3rd.

Stove and greenhouse plants were not of large size, but of fine quality; the tuberous-rooted Begonias from Mr. L. WATTS, the Pelargoniums from Mr. J. FORMBY, and Gloxinias from Mr. E. STOREY, and Ferns from Mr. ROCKLIFF made attractive features.

Hardy fruits and vegetables were admirably shown. Orchids.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

JULY 17.—The members of the Committee present on this date were Messrs. Cypher, Duckworth, Holmes, Upjohn, Parker, Rogers, MacNab, Cowan, and Weathers (hon. sec.).

Exhibits at this season are always scarce.

Messrs. J. CYPHER & SONS, Cheltenham, exhibited two good hybrid *Cypripediums*—viz., C. × Transvaal and C. × Phoebe, Cypher's var., both of which received an Award of Merit. The former is a good cross between C. × Rothschildianum × C. Chamberlainianum, and is a fine telling flower, intermediate in character. The second cross is between C. bellatulum × C. laevigatum, and somewhat resembles C. × Vipan.

S. GRATRIX, Esq., Whalley Range (gr., Mr. Cypher), received First-class Certificates for *Laelio-Cattleya Martineii*, West Point var., and *Laelio-Cattleya* × *Ingrami*, Gratrix's var., both being excellent forms and worthy of distinct varietal names.

W. DUCKWORTH, Esq., Flixton (gr., Mr. Tindall), exhibited the beautiful *Miltonia vexillaria* var. *Queen Alexandra*, a chaste form, which was awarded a First-class Certificate. A Bronze Medal was awarded to the group shown by this amateur.

Messrs. SANDER & SONS, St. Albans, received a Bronze Medal for a nice group, which contained several hybrid *Laelio-Cattleyas*, and a few good forms of *Miltonia vexillaria*.

CHAS. PARKER, Esq., Ashton-on-Ribble, exhibited a good *Cypripedium* hybrid, C. × *Cassandra*, the parents being C. × *Goweri* × C. *Sanderianum*. The flowers were rather young, but gave promise of being a valuable addition to the already large stock of hybrids (Award of Merit).

Mr. A. J. KEELING staged a small group of plants, to which a Vote of Thanks was awarded. P. W.

NATIONAL CARNATION & PICOTEE.

JULY 21.—Probably never before was a finer display of Carnations and Picotees made by the above Society than that brought together in the Drill Hall, Westminster, on this occasion. There had been times when growers had experienced some anxiety as to the form their flowers would take in July, but the conditions of weather seemed to have united to produce heads of bloom of a highly satisfactory character. The refined bizzars and flaked varieties were not so numerously produced as in previous years, still there were very fine blooms in some of the stands, and there was a purity and refinement about the white-ground Picotees that could not fail to fascinate. The chief attractions lay in the direction of the glorious selfs, yellow grounds, and fancies, which were displayed to the best advantage; they have come to rival the Malmalsons in their size and fullness of petals. The skill of the dresser may, and indeed does, something in the way of re-arrangement of the petals, but it is the grower which provides size, rotundity of petal, and brilliant markings. One could see by the spots at which visitors congregated where the chief attractions of the show lay.

Mr. F. A. WELLESLEY'S marked success in Division I., in which he was also the recipient of the Cup awarded to the exhibitor who gained the highest number of points was well deserved, and no one withheld congratulations from him. The entries in the smaller classes were unusually numerous, testifying to the number of devotees that are being attracted to the charmed circle of Carnation culture.

Improvements in staging are necessary; too little room was reserved for some of the classes—a defect which can be readily remedied by a little simple calculation. It is a pity judging does not commence at the time specified, and not three quarters of an hour afterwards. It is unfair to those exhibitors who stage their flowers in good time that they should have to stand exposed to heat and dust so long after the proper time named for an inspection by the judges. Necessary reforms find their way slowly into the practice of special floricultural societies.

DIVISION I.

This comprehended the leading classes, and was open to growers of large collections. It may be stated that in the following five classes for twenty-four blooms there were required no fewer than twelve varieties.

Carnation Blooms, Bizarres and Flakes, white grounds.—With twenty-four blooms, there were three entries, Mr. THOMAS LORD, florist, Hole Bottom, Todmorden, taking the 1st prize with a stand containing some refined, pure, brilliantly marked flowers, chief among them P.F. Gordon Lewis, C.B. J. S. Hedderly, S.B. Robert Houlgrave, R.F. Merton (a beautiful variety), C.B. George, C.B. Master Fred, S.B. Robert Lord, P.P.B. William Skirring, S.F. Sportsman, P.F. Geo. Melville, C.B. Guardsman, C.B. J. D. Hextall, S.B. Admiral Curzon, R.F. Mrs. T. Lord, and R.F. H. Shocsmith. Mr. MARTIN H. SMITH, Hayes Common, Kent (C. Blick, gr.), came 2nd, also with some good flowers, the principal of which were new varieties of his own raising, such as S.B. Dorothy and Halin, C.B. Nestor and Adonis, P.P.B. Elphinstone and J. S. Hedderly, P.F. Geneva and Flava, S.F. Gladiator, R.F. Sweet Nell Markham and Dalby; 3rd, Mr. C. TURNER, Royal Nursery, Slough.

Selfs.—With twenty four blooms Mr. SMITH took the 1st prize with a brilliant set, large, full, and of high quality. He had of maroon and deep crimson shades—Sir Bevy's, Gulnare-Kara, Agnes Sorel, and Don John; crimson—Roderick and Duke of Norfolk; scarlet and rose—Barra-Bomba and Waldemar; rose—Anna Boleyn, Helen and Floradora; apricot—Swashbuckler; yellow—Cecilia, The Naiad and Daffodil; white—Hildegard, Blanche and Mrs. Eric Hambro'. Mr. F. A. WELLESLEY, Westfield, Woking, came 2nd, also with finely finished blooms. He had Agnes Sorel, maroon; Almones, Falcon and Cecilia, yellow; Mrs. W. Mostyn, purple;

Benbow, buff; Mr. J. Douglas, rose; &c. 3rd, Messrs. W. ARTINDALE & SON, florists, Sheffield.

Fancies.—Mr. F. A. WELLESLEY came conspicuously to the fore in this class with large, even, and superbly-finished blooms of Hidalgo, Charles Martel, Monarch, Argosy, Perseus, Amphion, Voltaire, Primrose League, Guinevere, Queen Bess, Paladin, Ormonde, Gipsy Queen, Ossian. Mrs. F. A. WELLESLEY (a beautiful new variety, for a description of which see seedlings), and Charles Martel. Mr. M. H. SMITH was a very good 2nd indeed. His chief flowers were Lily Duchess, Bedemer, Hesperus, Bellicent, Athelstane, A. W. Jones, Queen of the Isles, Cavalier, Corporal Trim, The Seer, Thos. Hidalgo, and Kameses; Messrs. BLACKMORE & LANGDON, Twerton Nursery, Bath, were a good 3rd.

Picotees, White Grounds.—Here Mr. F. A. WELLESLEY was again 1st, having good-sized, pure, well-marked flowers of high quality. Of heavy red edges he had Brunette, W. E. Dickinson, Ganymede, and John Smith; light red, E. Thomas William; heavy purple edges, Amy Robsart, Muriel, Miriam, and Fanny Tett; light purple edges, Somerhill; heavy rose edges, W. H. Johnson, Clio, and Mrs. Payne; light rose edges, Fortrose, Nellie, and Favourite. Mr. M. R. SMITH was 2nd also with highly creditable blooms for the season. He had of light red edges, Grace Darling; heavy red edges, Manners, Brownie, and Ganymede; H.P.E. Amy Robsart, Beau Nash, and Miriam; L.P.E. Duchess of York; H. R. E. Tiptop, Mrs. Beswick, Acushla, Little Phil, Miss Sophy Grahame, Duchess of York, and Lady Louisa; L.R.E. Fortrose and Favourite. Mr. C. TURNER was 3rd.

Picotees, Yellow Grounds.—Mr. M. R. SMITH came 1st in this class with some beautiful blooms, chief among them Gronow, Badoura, Pere, Lucy Glitters, Espoir, J. Seult, Schiller, Chryseis, Verena, Laura, Leonora, Koh-i-noor, Speranza, (a fine new variety), Dalkeith, Lord Napier, and Mrs. Walter Heriot. Mr. F. A. WELLESLEY came a close 2nd; 3rd, Messrs. ARTINDALE & SON.

Single Blooms.—With six blooms of any one variety of self Carnation, Mr. SMITH was 1st with Daffodil, a fine pure yellow flower; Mr. F. A. WELLESLEY came 2nd with Germania, still very good; and Mr. C. TURNER with Sir Bevy's.

With six blooms of any yellow or buff fancy, Mr. F. A. WELLESLEY came 1st with Mrs. F. A. Wellesley; Mr. M. R. SMITH 2nd with King Solomon, heavily marked with vivid red on a light ground; 3rd, Messrs. BLACKMORE & LANGDON, with Richness, a fine new variety.

With six blooms of one variety of fancy Carnation Messrs. BLACKMORE & LANGDON were placed 1st with perfect blooms of Millie (pure white with some slight rose pencillings at the point of each petal, one of the most distinct varieties in cultivation); Mr. F. A. WELLESLEY was 2nd with the same variety; and Mr. M. R. SMITH was 3rd with Jno. Sebright, a beautiful flower, bright pinkish-rose, handsomely marked (for description see seedlings).

The best six blooms of a yellow ground Picotee were those of Mrs. WALTER HERIOT, a variety of good quality with a mere edge of rose; Mr. WELLESLEY came 2nd with Lady St. Oswald; and Messrs. ARTINDALE & SON 3rd with Child Harold.

Flowers in small Vases.—With twelve varieties of selfs, fancies, or yellow grounds, three blooms of each, without dressing, Mr. M. R. SMITH was 1st with fine blooms admirably staged, but unnamed, in defiance of the regulations; Messrs. BLACKMORE & LANGDON were a good 2nd.

SINGLE BLOOMS.

Scarlet bizzars.—1st, Messrs. THOMSON & CO., florists, Birmingham, with Robert Houlgrave; Mr. F. BUTT was 2nd with the same; and Mr. B. PASH 3rd with Admiral Curzon.

Crimson Bizarres.—1st, Mr. WELLESLEY; 2nd and 3rd, Mr. F. BUTT, in each case with J. S. Hedderly.

Pink and Purple Bizarres.—1st, Mr. D. WALKER, Kilnarnock, with William Skirring; and Mr. WELLESLEY 3rd with the same; Mr. E. J. WOOTEN was 2nd with Sarah Payne, probably the oldest named Carnation in cultivation.

Purple Flakes.—1st, Mr. W. SPENCER, Windsor; and 2nd, Mr. WOOTEN, with Geo. Melville; Mr. J. FAIRLIE coming 3rd with Gordon Lewis.

Scarlet Flakes.—1st, Mr. WOOTEN with Sportsman; 2nd, Messrs. THOMSON & CO., with J. J. Keen, a vividly-marked new variety of decided promise; Mr. B. PASH coming 3rd with Sportsman.

Purple Flakes.—1st and 2nd, Messrs. W. PEMBERTON & SON, Walsall, with Merton; and it was 3rd also, being shown by Mr. WOOTEN. Indeed, it gained all the five prizes awarded in this class.

Selfs, Blush or White.—1st, Mr. R. C. CARTWRIGHT, and 2nd, Mr. A. J. COOK, with Esquis, one of Mr. Smith's white selfs; and the former was also 3rd with Much-the-Miller.

Rose or Pink.—1st, Mr. W. H. PANTON, Birmingham, with Lady Hermione; Mr. WOOTEN coming 2nd with a seedling, and Mr. COOK 3rd with Bomba.

Scarlet, Red or Crimson.—1st, Mr. SPENCER with a scarlet self sport from S.F. John Wernald; Mr. CAR-

WRIGHT being 2nd with a seedling; and Mr. WALKER 3rd with Sircar, brilliant in colour.

Maroon or Purple.—1st, Mr. E. CHARRINGTON with Helen, crimson-purple shaded with mauve; and 2nd with the same. Mrs. W. Mostyn, a purple self, was 3rd, the name of the exhibitor not stated.

Yellow.—1st, Mr. WOOTTEN with Almoner; Mr. E. CHARRINGTON being 2nd and Mr. SPENCER 3rd, both with Germania.

Buff.—Mr. Smith's Benbow won all the prizes. Mr. WELLESLEY was 1st, and Mr. R. C. CARTWRIGHT 2nd and 3rd.

Fancy Yellow Ground.—Mr. NASH came 1st with Monarch, Mr. WELLESLEY 2nd with Mrs. F. A. Wellesley, and Mr. CARTWRIGHT 3rd with Argosy.

Other Fancy than Yellow Ground.—1st, Mr. SMITH with Nestor, white ground pencilled with crimson; Mr. CARTWRIGHT was 2nd, and Mr. WOOTTEN 3rd with Artemus, with scarlet flakes on a lavender ground.

Picotées.—H. Red Edging: 1st, Mr. PASH, with Thomas Anstiss; 2nd, Mr. J. J. KEEN; and 3rd, Messrs. PEMBERTON & SON with John Smith. L. Red E.: 1st, Mr. KEEN, and 2nd, Mr. SPENCER with Thomas Witham; Mr. BUTT coming 3rd with Grace Darling. H. Pink E.: 1st, Messrs. THOMSON & Co. with Fanny Tett, a fine variety of the late Mr. Dodwell's raising; Messrs. PEMBERTON & SON were 2nd with Amy Robsart; Mr. BUTT coming 3rd also with Fanny Tett. L. Pink E.: 1st, Mr. WELLESLEY with Somerhill; 2nd, Mr. WOOTTEN with Pride of Leyton; 3rd, Mr. BUTT with Lavinia. H. E. Rose or Scarlet: 1st, Mr. WOOTTEN, with Fortrose, having a heavy edge; Messrs. PEMBERTON & SON came 2nd with Lady Louisa; and Mr. SPENCER 3rd with Mrs. Payne. L. E. Rose or Scarlet: 1st, Mr. WOOTTEN, and 2nd, Mr. SPENCER with Favourite; 3rd, Mr. WELLESLEY with Fortrose. H. E. Yellow Ground: 1st, Mr. KEEN with Gronow; 2nd, Mr. SMITH with Dalkeith; this variety was also 3rd, but no exhibitor's name was attached. L. E. Yellow Ground; 1st, Mr. SMITH with Mrs. W. Heriot; 2nd, a flower without name of variety or exhibitor; Mr. NASH coming 3rd with Heliodorus.

Premier Blooms.—Bizarre, C.B. J. S. Hedderley, shown by Mr. WELLESLEY; and he also had the premier flake in P.F. Gordon Lewis, finely coloured. Self, Ensign, white, from Mr. CARTWRIGHT. Fancy, Mrs. F. A. Wellesley, shown by Mr. WELLESLEY. H.E. white-ground Picotee, H.E. John Smith, H. Red E., shown by Mr. J. J. KEEN. L.E., L.P.E. Lavinia (Douglas), from Mr. A. J. ROWBERRY. H.E. yellow ground, Dalkeith, from Mr. M. R. SMITH. L.E.Y.G., Childe Harold, a beautiful bloom, from Mr. H. E. BUCKLAND.

A valuable Cup offered by the President, Mr. M. R. Smith, for the winner of the greatest aggregate number of points in Division I., was taken by Mr. F. A. WELLESLEY.

DIVISION II.

The exhibitors in this division were generally growers of smaller collections, and here Mr. W. SPENCER, of Windsor, came to the fore, showing splendid blooms in some classes, and gaining the greatest number of points. He became the winner of the Silver Cup offered by the President in this division.

Carnations, Bizarres, and Flakes. With twelve blooms distinct, Messrs. PEMBERTON & SON, Walsall, were placed 1st, chief among their flowers were—R. F. Merton, S. F. Flamingo; P.P.B., J. D. Hextall; P.T. Geo. Melville; R.F. Mrs. Rowan; P.F. Charles Henwood; S. B. Robert Houldgrave, and S.F. Sportsman; Mr. W. SPENCER came a good 2nd, and Messrs. THOMSON & Co. were 3rd.

With twelve Selfs, Mr. SPENCER came 1st with very fine blooms of Almoner, Barras, Hildegard, Jocelyn (a heliotrope self), Sultan, Much-the-Miller, Orpheus, Orion (a fine blush self), Benbow, Germania, Helen, and Britannia; Messrs. THOMSON & Co. were 2nd, with excellent blooms of Enchantress, Mrs. F. Sims, The Sirdar, Vivian, &c.

With twelve fancies, Mr. SPENCER again won the 1st prize with superb blooms of Paladin, Voltaire, Galileo, Argosy, Artemus, Queen Bess, Monarch, Ormonde, Mrs. Tremayne, Oberon, and Amphion, a valuable selection; Messrs. THOMSON & Co. were 2nd.

With twelve white-ground Picotées, Mr. B. NASH, Woking, came 1st with nice neat pure flowers; Messrs. PEMBERTON & SON were 2nd; and Mr. NASH was also 1st with twelve Y.G. Picotées, staging excellent blooms of Heather Bell, Lady St. Oswald, Lady Bristol, Heperia, Evelyn, Mohican, Mrs. Douglas, &c.; Messrs. THOMSON & Co. were 2nd.

The best six blooms of a self Carnation, one variety, were Mrs. Eric Hambro', white, from Mr. SPENCER; Mr. NASH coming 2nd with the same. With six blooms of a yellow or buff fancy, Mr. SPENCER came 1st with a grand Voltaire; Mr. B. NASH was 2nd with Mrs. Tremayne.

With six blooms of one variety of fancy Carnation other than yellow or buff, Mr. E. CHARRINGTON came 1st with Ivo Sebright (see seedlings); and Mr. BROOKES SMITH was 2nd with a variety bearing her name, white flaked with rosy-crimson. With six blooms of any yellow ground Picotee, Mr. H. W. MATHIAS came 1st with the Pilgrim; Mr. NASH 2nd with Heliodorus.

With six varieties of selfs, fancies, and yellow grounds, Mr. S. MORRIS, Wrexham Hall, Thetford, with very fine blooms; Mr. W. SPENCER, being 2nd.

DIVISION III.

contained smaller classes, some ten in number for those growing a limited number of plants. The blooms were shown both on boards and in bottles. Mr. JAS. FAIRLIE took the 1st prize for six bizarre and flake Carnations; Mr. CARTWRIGHT for the best six selfs, and also for the best six fancies; Mr. W. E. WILSON coming 1st with six Picotées; and Mr. E. H. BUCKLAND for six yellow-ground Picotées (in this stand was the very fine bloom of Childe Harold, selected as the Premier Y.G. Picotee in the show).

In the class for three blooms, Mr. E. CHARRINGTON was a successful exhibitor. A Cup was also offered in this division, and it was awarded to Mr. R. C. CARTWRIGHT. The entries were very numerous in this division.

Undressed Flowers (without Cards).—Seven classes were set apart for these, and the schedule of prizes set forth that "there must be no manipulation of the calyx, and a split pod is a disqualification." Some of the blooms were fairly good in each, and some excellent flowers were staged. Mr. E. J. WOOTTEN was a successful exhibitor in these classes, and he was awarded a Silver Cup, having gained the highest number of points. A class for six blooms of any type was also set apart for those who have never won a prize at any exhibition of the Society, and it is therefore a kind of recruiting ground for it.

Carnations in Pots.—This appears to be a declining feature, as although four classes were provided, there was but one entry, that in the class for a group to cover 50 square feet. This was from Mr. C. TURNER, and was awarded the 1st prize.

Floral Decorations.—Mr. C. BLICK was 1st for two bouquets of Carnations, one was of white, the other of mixed colours, and they were nicely arranged with elegant foliage; Mr. D. OLIVER was 2nd, having one of white, the other of pink Carnations. Mr. BLICK was 1st for a vase of Carnations, having a bold arrangement of good blooms and foliage; Mr. HEALING, Reigate, was 2nd. Mr. SPENCER had the best three sprays, and Mr. BLICK the best three button-holes.

SEEDLING CARNATIONS AND PICOTÉES.

Certificates of Merit were awarded to the following:—

Fancy Carnation Mrs. F. A. Wellesley.—Pale sulphur ground, with markings of rose, scarlet, and maroon on the petal edges; a highly refined variety with stout shell petals and full substance. From Mr. F. A. WELLESLEY, Woking.

Fancy Carnation Ivo Sebright.—A novel and beautiful variety; the ground rosy-pink with flakes of pale heliotrope towards the edges. From Mr. M. V. CHARRINGTON, Edenbridge.

Yellow Picotee Speranza.—Pale yellow ground, heavily edged with deep rose, fine and distinct. From Mr. MARTIN R. SMITH, Hayes.

Fancy Carnation Richness.—A rich and striking variety, yellow ground, heavily edged with bright red; extra fine quality. From Messrs. BLACKMORE & LANGDON, Twerton Nursery, Bath.

MISCELLANEOUS COLLECTIONS OF CARNATIONS.

Messrs. CUTBUSH & SON, Highgate Nurseries, N., staged a bold and striking ground group of Carnations, including Malmaisons, and interspersed with foliaged plants. Merlin, Sabrina, and Brigadier were very good yellow-grounds; and among the Malmaisons was one having a large flower of a crimson colour. The Royal Horticultural Society awarded a Silver-gilt Banksian Medal.

Messrs. VEITCH & SONS, King's Road, Chelsea, had a table-group of Carnations in pots, which included Trojan, white self; Galatea, yellow ground; Mrs. C. Baring, fancy; Lord Roberts, yellow self; Queen of Scots, salmon; Bendigo, purple; Mrs. Nicholson, deep pink, &c.

Messrs. J. PEED & SONS, nurserymen, West Norwood, had Malmaison and other Carnations in pots nicely displayed with Palms, Ferns, &c.

Messrs. PHILLIPS & TAYLOR, Carnation Specialists, Bracknell, had vases of various Carnations; and also Bamboo stands of the same with Water-Lilies in front.

Mr. R. H. BATH, LTD., Wisbech, had a large collection of Carnations in pots, bearing blooms of good quality, and also small vases of blooms.

A notable exhibit was the noble vases of Carnations set up by Mr. A. T. DUTTON, The Nurseries, Bexley Heath, Kent, and which suggested a future feature for the National Carnation Show. A table of such vases would be indeed an alluring feature. The varieties were Royalty, soft, pleasing pink; G. H. Crane, brilliant scarlet; Mr. Thos. W. Lawson, a very fragrant pink; and Madame Melba, delicate pink, a lovely variety. The blooms were all on long stems, and arranged with great taste, fit for the table at any royal function. The Carnation Society could make no further award than a

Certificate of Merit (the Royal Horticultural Society awarded a Silver Flora Medal).

Mr. JAMES DOUGLAS, Edenside Nurseries, Great Bookham, exhibited a number of fine flowers of new and choice varieties, and was awarded a Silver Banksian Medal by the Royal Horticultural Society.



METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period July 12 to July 18, 1903. Height above sea-level 24 feet.

1903. JULY 12 TO JULY 18.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERATURE OF THE SOIL AT 9 A.M.			
		At 9 A.M.		DAY. NIGHT.		At 1-foot deep.		At 2-foot deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	RAINFALL.	At 1-foot deep.	At 2-foot deep.	At 4-foot deep.
SUN 12	N.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.
MON. 13	N.W.	62.7	61.0	67.2	60.0	...	66.9	62.6	57.9
TUES. 14	N.W.	58.6	53.0	64.9	46.3	...	64.7	62.4	58.0
WED. 15	N.W.	63.0	55.2	69.2	45.3	...	62.0	61.8	58.1
THU. 16	N.W.	64.7	58.3	75.7	54.0	...	62.8	61.3	58.1
FRI. 17	S.W.	64.4	60.0	66.6	54.0	0.09	63.7	61.5	58.1
SAT. 18	S.W.	65.5	60.4	71.2	56.2	2.07	63.1	61.3	58.1
MEANS	N.E.	61.6	60.0	71.0	57.5	10.53	63.5	61.5	58.2
						Tot			
		62.8	58.3	69.4	53.4	4.09	63.8	61.8	58.1

Remarks.—Rather dull weather, with some thunder-showers towards the end of the week.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending July 18 is furnished from the Meteorological Office:—

"The weather was fine at the opening of the period, but gradually became very unsettled over the whole kingdom. Very heavy rains were experienced at several western and northern stations between the 14th and 15th, and in London and at Shoeburyness on the 17th. Thunder-storms were rather general over the central and southern parts of England towards the end of the week.

"The temperature was below the mean in most districts, the deficit in Scotland, N. and E. being 4° and 5° respectively. In England, S. Ireland, S., and the Channel Islands, however, the mean was just equalled. The highest of the maxima were recorded on somewhat irregular dates as a whole, but on Wednesday over the more southern parts of England. They ranged from 77° in England, S. and Ireland, S., to below 70° in England, N.W. and over Scotland, and to 64° in Scotland, N. The maxima on the north and north-east coasts of Great Britain were frequently very low—55° or even less. The lowest of the minima—registered, as a rule, either on the 13th or 14th—varied from 35° in Scotland, E., and 37° in Scotland, N., to 40° or a little higher in most other districts, and to 49° in the Channel Islands. Thermometers exposed on the grass during the night of 13th-14th recorded 31.1° at Fort William, and 31.1° at Hillington.

"The rainfall exceeded the mean generally, but only just equalled it in the Midland Counties, England, S.W., and the Channel Islands, and was less in Scotland, N. and England, S. The heaviest aggregate fall for the week was 2.72 ins. at Aspatia, but the heaviest amount for any one day was at Douglas on Tuesday, when 1.64 ins. was collected. This was closely followed by 1.50 ins., which fell within five hours in London during the early hours of Saturday.

"The bright sunshine was deficient excepting in Scotland, N., and the Channel Islands. The percentage of the possible amount of duration ranged from 52 in the latter district, and 33 in England, S., to less than 20 in Scotland, E., and England, N.E., and to only 10 in Ireland, N."

THE WEATHER IN WEST HERTS.

Cool and Showery Weather.—On one day the temperature in the thermometer screen never rose above 58°, which is about 12° colder than is seasonable, and on

the coldest night the exposed thermometer fell to within 3° of the freezing-point. As a rule, however, the nights were fairly warm. The soil is now at about an average temperature at 2 feet deep, but 2° colder than is seasonable at 1 foot deep. Rain fell on four consecutive days to the total depth of rather more than $\frac{3}{4}$ of an inch. Previous to this there had been no rain worth mentioning since June 19, or for very nearly a month. Of the rainfall above mentioned about a tenth of an inch has come through the bare-soil percolation gauge. For three weeks previously there had been no measurable percolation through that gauge. On two days during the week no sunshine at all was recorded, and on two others the sun shone for less than a quarter of an hour. Throughout the week the atmosphere has been very calm, and on one day the total record for the twenty-four hours was only $\frac{1}{8}$ miles—making this the calmest day I have yet recorded here in July. The amount of moisture in the air was on most days exceptionally large for the time of year. *E. M., Berkhamsted, July 21, 1903.*

MARKETS.

COVENT GARDEN, July 23.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS, &c.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Alstroemeria, doz. bunches	4 0-6 0	Lupins, doz. bun.	3 0-4 0
Asters, bunches...	0 4-1 6	Malva, doz. bun.	4 0-6 0
Azaleas, doz. bun.	2 0-4 0	Marguerites, yellow, doz. bunch.	1 6-2 0
Canterbury Bells	0 4-0 6	Mignonette, doz.	2 0-3 0
Carnations, bunch	0 6-1 6	Orchids: Cattleya, dozen blooms...	12 0-15 0
— Malmalsons, doz.	6 0-12 0	— Dendrobiums, per dozen	2 0-3 0
Coreopsis, dozen bunches	1 0-2 0	— Odontoglossums, dozen	2 0-4 0
Cornflowers, doz. bunches	1 0-2 0	Pelargoniums, zonal, dozen bunches	4 0-6 0
Eucharis ...	2 0-3 0	— White ...	3 0-6 0
Ferns, Asparagus, per bunch	1 0-2 6	Pinks, per dozen bunches...	2 0-4 0
— French, per doz. bunches	0 4-0 6	Poppies, Iceland, p. doz. bunches	0 6-1 0
— Maidenhair, doz. bunches	4 0-6 0	Pyrethrums, doz. bunches...	3 0-5 0
Gardenias, p. box	1 6-3 0	Roses, Mermet, doz.	1 6-2 0
Gladiolus, White, per bunch	0 4-0 6	— Moss, 12 bun.	2 0-3 0
— Blushing Bride, bunch	3 0-6 0	— various, per bunch	0 4-1 6
— Breckleyensis, per bunch	1 6-3 0	— red, 12 bunchs.	3 0-6 0
— various, bunch	0 6-1 0	— white, bunch	1 0-2 6
Gypsophila, bun.	0 3-0 4	— pink, bunch	0 4-1 6
Iris, per bunch...	0 6-1 0	Smilax, doz. trails	1 6-2 6
Liliums, White ...	3 0-	Stenactis speciosa (pale mauve), doz. bunches	2 0-3 0
— longiflorum, per bunch	1 6-2 6	Stephanotis, doz.	1 6-2 0
— lancifolium, per bunch	1 6-2 0	Stocks, per dozen bunches...	2 0-4 0
— candidum, per bunch...	1 0-2 0	Sweet Peas, per dozen bunches	1 0-3 0
— rubrum, bunch.	1 0-2 0	Tuberose, strong, per bunch	0 9-1 0
— auratum, bunch.	1 0-2 0	— per dozen	0 2-0 3
Lily of the Valley, p. doz. bunches	4 0-12 0		

PLANTS IN POTS, &c.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Acers, each	2 0-2 6	Fuchsias, p. doz.	3 0-6 0
Adiantums, doz.	4 0-8 0	Heliotrope	4 0-6 0
Aralias, per doz.	4 0-8 0	Hydrangeas, doz.	8 0-24 0
Arbor Vitae, per dozen	9 0-18 0	Ivy-leaved Pelargoniums, dozen	2 0-4 0
Aspidistras, doz.	18 0-36 0	Lilium longiflorum, per doz.	8 0-12 0
Aucubas, per doz.	4 0-8 0	— lancifolium, per dozen	10 0-12 0
Calceolarias, per dozen	4 0-6 0	Lycopodiums, p. dozen	3 0-4 0
Campanulas, doz.	4 0-6 0	Marguerites, doz.	3 0-12 0
Chrysanthemum coronarium (Double yellow)	2 0-6 0	Mignonette, doz.	4 0-6 0
Etoile d'Or, doz.	12 0-18 0	Musk, per dozen	2 0-4 0
— Single yellow	4 0-6 0	Orange-trees, each	3 0-7 6
Coleuses, per doz.	4 0-5 0	Palms, var., each	3 0-20 0
Coreopsis, dozen	4 0-6 0	Pelargoniums, — Oak-leaved, scented, doz.	3 0-4 0
Crassulac, dozen	8 0-12 0	— pink, per doz.	4 0-6 0
Crotons, per doz.	12 0-24 0	— scarlet, dozen	3 0-6 0
Dracenas, variety, dozen	12 0-48 0	Petunias, p. doz.	4 0-6 0
Ericas, per dozen	8 0-18 0	— in boxes	1 0-1 6
Euonymus, vars., per dozen	4 0-6 0	Pteris tremula, doz.	4 0-8 0
Ferns in var., per dozen	4 0-30 0	— Winstedti, doz.	4 0-8 0
— Japanese balls, each	1 6-	Rhodanthes, per dozen	4 0-5 0
Ficus elastica, doz.	9 0-21 0	Rose Trees, per dozen	6 0-12 0
		Verbenas, dozen	6 0-10 0

FRUIT.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Apples, Australian, including Tasmanian, per case	8 0-14 0	Gooseberries, per sieve	4 0-5 0
Bananas, bunch...	9 0-14 0	Lemons, per case	8 0-15 0
— loose, dozen	1 0-1 6	Melons, each	0 6-2 0
Cherries, sieve	4 0-10 0	Nectarines, A., per dozen	8 0-12 0
Currants, Red, per sieve	5 0-7 0	— B., per doz.	3 0-6 0
— Black, sieve...	10 0-11 0	Oranges, per case	7 6-14 0
Figs, per dozen	2 0-4 0	Peaches, A., per dozen	10 0-15 0
Grapes, Alicante, per lb.	0 10-1 6	— B., per dozen	3 0-6 0
— Gros Maroc, lb.	1 0-1 6	Pines, each	2 6-5 0
— Hamburgh, A., per lb.	2 0-2 6	Plums, per sieve	9 0-12 0
— B., per lb.	0 6-1 0	Raspberries, per dozen punnets	4 0-
— Muscats, A., lb.	3 0-4 0	— per cwt.	36 0-
— B., per lb.	1 3-1 8	Strawberries, A., per peck	1 6-
		— doz. punnets	3 0-18 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Artichokes, Globe, per dozen	1 6-2 0	Mushrooms, house, per lb.	0 9 1 0
Beans, dwarf, lb.	0 9-	Onions, per bag...	5 0-5 6
— broad, bush.	2 0-2 6	— green, per dozen	1 6-2 6
— Channel Islands, per lb.	0 8-0 9	Parsley, per doz. bunches	2 0-3 0
Beetroots, per doz. bunches	2 0-3 0	— sieve	1 0-1 6
Cabbages, tally...	3 6-5 0	Peas, per bag	3 6-6 0
Carrots, new, per dozen	1 0-1 3	— per bushel	2 6-3 6
Cauliflowers, per dozen	1 6-3 0	Potatoes, per ton	90 0-130 0
Celery, per dozen bundles	12 0-15 0	— St. Malo, per cwt.	5 0-
Cress, per dozen punnets...	1 3-	— Lincoln, &c.	4 6-6 0
Cucumbers, per dozen	1 6-3 6	Radishes, per dozen bunches	0 9-1 0
Endive, per doz.	2 0-2 6	Salad, small, punnets, per doz.	1 3-
Garlic, per lb.	0 2-	Spinach, per strike	2 6-3 0
Horseradish, foreign, p. bunch	1 6-1 9	Tomatoes, Channel Islands, per lb.	0 4-0 5
Leeks, per dozen bunches...	1 6-2 0	— English, per 12 lb.	4 6-
Lettuces, Cabbage, per dozen	0 9-1 0	Turnips, new, per dozen bunches	2 0-4 0
Lettuce, Cos, per score	0 6-1 6	Vegetable - Marrows, per dozen	2 0-2 6
Mint, per dozen bunches	2 0-3 0	Watercress, per dozen bunches	0 4-0 6

REMARKS.—A few home-grown Apples are coming in, realising 4s. to 4s. 6d. half-bushel. The Cherries are very much cracked, owing to the recent rains. Some really good Strawberries only are in request, and they are worth as much as 18s. dozen punnets. Some Italian Pears in baskets, 4s. Lisbon Apples in large cases fetch 12s. to 13s. Cape Oranges, box or tray, 1s. 6d. to 2s. Some good French Tomatoes in pecks are selling for 2s. 6d., and in crates at 4s. Foreign Green Gages in boxes fetch 1s. to 2s. 3d., according to size; in pecks and half-bushels, 4s. to 12s. 6d. respectively.

POTATOS.

French, 4s. to 5s. per cwt.; home-grown, 5s. to 6s. 6d. per cwt. John Bath, 32 & 34, Wellington Street, Covent Garden.

FRUITS AND VEGETABLES.

GLASGOW, July 22.—The following are the averages of the prices during the past week:—Apples, Australian and Tasmanian, 12s. to 16s. per box; Tomatoes, 6d. to 1s. per lb.; Oranges, Valencias, ordinary, 420's, 22s. to 23s. per box; large 420's, 21s. to 27s. do.; extra large 420's, 25s. to 30s. do.; 714's, 27s. to 30s. do.; Lemons, 6s. to 10s. per box, and 7s. to 14s. per case; Grapes, English, 1s. to 2s. 6d. per lb.; Onions, 6d. per bag and case; Cherries, 6d. to 8d. per lb.; Strawberries, 4d. to 9d. do.; Dublin Gooseberries made from 21s. to 24s. per cwt.; Scotch do., 21s.; and Dutch 19s.; Dutch Carrots, 4s. to 7s. 6d. per hamper.

LIVERPOOL, July 22.—Wholesale Vegetable Market.—Potatoes, per cwt., Kidneys, 6s. 9d. to 8s.; Early Regents, 4s. 9d. to 5s. 6d.; New, 1s. 6d. per 21 lb.; Turnips, 6d. to 8d. per 12 bunches; Carrots, 8d. to 10d. do.; Onions, foreign, 4s. 9d. to 5s. per cwt.; Parsley, 4d. to 6d. per dozen bunches; Lettuces, 6d. to 10d. per dozen; Cucumbers, 1s. 6d. to 3s. do.; Cauliflowers, 1s. to 2s. 6d. do.; Cabbages, 6d. to 1s. 2d. do.; Peas, 7s. to 8s. per hamper; Beans 2s. 9d. to 3s. 6d. do. St. John's—Potatoes, new, 1d. to 1½d. per lb.; Asparagus, 2s. to 4s. per 100; Peas, 1s. to 1s. 6d. per peck; Cucumbers, 3d. to 6d. each; Apricots, 1s. to 1s. 6d. per dozen; Gooseberries, 3d. per lb.; Currants, white, 4d. do.; do., Red, 4d. do.; do., Black, 6d. do.; Cherries, 6d. to 8d. do.; Strawberries, 4d. to 8d. do.; Grapes, 1s. 6d. to 3s. 6d. do.; Pines, foreign, 4s. 6d. to 6s. each; Mushrooms, 1s. per lb. Birkenhead.—Potatoes, 1s. 6d. per peck; do., new, 1d. per lb.; Peas, 10d. to 1s. 6d. per peck; Cucumbers, 2d. to 4d. each; Strawberries, 4d. to 8d. per lb.; Currants, Red, 6d. to 8d. do.; do., Black, 8d. to 10d. do.; do., White, 6d. to 8d. do.; Peaches, 4d. to 6d. each; Cherries, 6d. to 10d. per lb.; Apricots, 1s. to 1s. 6d. per dozen; Gooseberries, 3d. to 4d. per lb.; Grapes, English, 2s. to 4s. 6d. do.; Tomatoes, English, 6d. to 8d. do.; Mushrooms, French, 1s. to 1s. 4d. do.; Filberts, 8d. do.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending July 18, 1903, and for the corresponding period of 1902, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1902.	1903.	Difference.
	s. d.	s. d.	s. d.
Wheat ...	30 11	28 3	- 2 8
Barley ...	23 8	20 5	- 3 3
Oats ...	22 10	18 7	- 4 3

ENQUIRY

CATTLE POISONING BY BUTTERWORT. — Mr. F. W. Moore, of the Botanic Gardens, Glasnevin, would be glad if any of our readers could inform him if they know of an authentic case of cattle being poisoned by eating the Butterwort, *Pinguicula vulgaris*. Personally he is inclined to believe that this plant is harmless, and that it is not eaten by cattle; but there is such a widespread belief in Ireland to the contrary, and he is so often asked for information as to how *Pinguicula* can be eradicated, and its baneful influence on cattle counteracted, that he is induced to seek information concerning the plant, and its effects, if any, upon cattle.

TRADE NOTICES.

THE writer of the note in our last issue, p. 42, omitted to state that he (Mr. Golding) had only purchased the local retail business carried on at No. 199, High Road, Kilburn, until recently as a branch by Mr. W. H. Hudson, of 34, High Road, Chiswick.

THE business of nurseryman, market-gardener, and fruit-grower, hitherto carried on at Claydon Gardens, Claydon, Bucks, has been taken over by the Claydon Nursery Co., who have appointed Mr. J. Milsom as their general manager, to whom all business communications should be addressed.

BELL & BIEBERSTEDT.—Mr. Alexander Cross, formerly of Cross & Donaldson, desires us to inform our readers that he has joined the staff of Messrs. Bell & Bieberstedt, wholesale seed-merchants and growers, Leith.

ANSWERS TO CORRESPONDENTS.

** The reports which our Correspondents have kindly sent us upon the condition of the FRUIT CROPS will be published in our next issue.

** EDITOR AND PUBLISHER.—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

BLACK GRAPES: S. T. The fruit sent shows no trace of mealy-bug or of stickiness. It is unlikely that the exudation of sap, as the gardener suggests, would occur to cause this, unless aphides had perforated the leaves and green shoots. The excrements of these insects when abundant cause stickiness, as witness the honey-dew of Lime-trees when infested with aphides. The Grapes were of fine size and colour. Mealy-bug is difficult to

eradicate. The usual dressing the Vines receive should be supplemented by lime-washing the walls, cleansing the hot water-pipes and the woodwork and glass, and the removal of the surface-soil to a depth of 3 inches, replacing it with fresh loam. During spring and summer a sharp look out must be kept for isolated specimens, touching these with a camel-hair pencil dipped in methylated spirits. The sum of 2s. 6d. kindly sent for the Royal Gardeners' Orphan Fund will be sent to the Treasurer of the Fund.

CORRECTION.—*Vide* report of Croydon show, Fruit classes, p. 46, in *Gardeners' Chronicle*, July 18, for "Barber," Castle Hill Gardens, read "Barks."

CUCUMBER PLANTS FAILING: *J. J. P., Stroud.* The plants are suffering from the Spot-fungus (*Cercospora*); but that is not the whole cause. We suspect something wrong at the root. Please send roots, &c.

CUT FLOWERS FOR MARKETING: *J. D.* Just what you please. Study our market reports, cultivating any plants there named that you like and will best suit your purpose. If you do not know anything about their cultivation, go into a market establishment for a year or two and acquire the necessary knowledge, otherwise it is probable that you will lose your money. Gardening, like everything else, has to be learned by experience, and even flowering plants in pots will not give satisfaction unless intelligently handled.

EARLY HIGH-COLOURED RHUBARB: *Enquirer.* The earliest, Daw's Champion, Myatt's Victoria, Linnaeus, and Kershaw's Paragon.

EMPLOYMENT AT KEW: *H. D. P.* Yes; but you may have to wait some time before a vacancy occurs. Apply to the Curator, furnishing copies of testimonials, when, if these be found satisfactory, you will be furnished with a form to be filled up.

GOOSEBERRIES: *W. T.* We are unable to name the fruit.

GRAPE: *M. & Co.* We are unable to name the variety with certainty from such scraps; perhaps White Tokay.

GRAPES: *C. B.* Grape spot. Burn the affected berries. You can do nothing till the leaves are off, then spray the rods very carefully with the Bordeaux-mixture, and again in spring before the leaves are out.—*B. & W.* Specimen rotten when received.

MELON GOING OFF: *Alva.* Material sent quite insufficient. Please send roots, leaves, shoots, and soil.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*S. B.* 1, *Dendrobium Dalhousieanum* of gardens; 2 is not an Orchid, but a Gingerwort, probably *Zingiber officinale* (Ginger-plant), or a close ally of it.—*E. K.* *Cirrhaea viridipurpurea*.—*F. C. L.* A Moss, a species of *Polytrichum* not in fruit.—*A. W. S.* *Trachelium cornutum*.—*J. R.* A form of the Norway Maple, *Acer platanoides*.—*F. P.* *Adlumia cirrhosa*.—*Sodbury.* The petals had all fallen. It seems very like one we see in the markets.—*Bob.* 1, *Malva moschata*; 2, *Centaurea macrocephala*; 3, *Lysimachia clethroides*; 4, *Lychnis chalcedonica*, double; 5, *Lilium Martagon*; 6, *Ruellia Devoniana*.—*B. F. S.* *Chenopodium olidum*.—*Phyto.* 1, *Circaea lutetiana*; 2 and 3, Willows, quite indeterminate from leaves only; 4, *Rhodiola rosea*.—*J. J. M.* 1, *Codiaeum Queen Victoria*; 2, *C. trilobum*; 3, *C. Evansianum*; 4, *C. van Erstedii*; 5, *C. angustifolium*; 6, *C. Johannis*.—*J. T., Paisley.* *Miltozia Roezlii*.—*E. R.* *Galega officinalis*.—*W. R.* *Spiraea filipendula*, double fl. —*R. D. R.* 1, *Oncidium incurvum*; 2, *Epidendrum oncidoides*; 3, *Celoglyne speciosa*.—*M. K., Potsdam.* Good varieties of *Cattleya Leopoldi*.—*R. G.* 1, *Spiraea Lindleyana*; 2, *Spiraea* sps.; 3, *S. Douglasi*; 4, *Agrostemma coronaria*, richly coloured.—*No Name.* 1, *Agrostemma coronaria*; 2, *Alchemilla alpina*; 3, *Lamium purpureum* var. *aureum*.—*Constant*

Reader. 1, *Linaria purpurea*, white var.; 2, *Sedum album*; 3, *Erigeron mucronatum*; 4, *Euphorbia cyparissias*; 5, *Lathyrus magellanicus*.—*D. W. Y., Chesterfield.* 1, *Lamium purpureum* var. *aureum*; 2, *Adiantum concinnum*; 3, *Adiantum trapeziforme*; 4, *Adiantum hispidulum*; 5, *Adiantum tenerum*.—*C. V. A.* 1, *Juniperus japonica variegata*; 2, *Cupressus pisifera* var. *plumosa* (*Retinospora*); 3, *Cupressus pisifera*, squarrose form (*Retinospora*); 4, *Cupressus pisifera aurea* (*Retinospora*); 5, *Cupressus Lawsoniana aurea*; 6, *Juniperus excelsa*.—*F. D.* *Magnolia cordata*.—*W. C. B.* *Rhus Toxicodendron*; *Lychnis corsica*.—*G. E. R.* 1, light, *Spiraea callosa*; 2, *Spiraea Bumalda* var.; 3, *Rubus nutkanus*; 4, *Punica granatum*; 5, *Forsythia viridissima*; 6, *Gleditschia*; 7, *Symphoricarpos racemosus* varieties.—*S. H.* *Valeriana officinalis* var.—*W. C., Shrewsbury.* *Sisyrinchium bermudianum*.—*E. G. H.* *Chironia linoides*.

NOTICE TO QUIT SERVICE: *G.* You are entitled to one month's notice, or money in lieu thereof, if there be no written agreement otherwise dealing with the matter.

PARASITE ON PELARGONIUMS: *S. C.* The parasite is *Cuscuta epithymum*, Lesser Dodder, more frequent in England than *C. europaea*, common on Heaths, Thymes, and other small shrubby plants. Probably imported in peat or loam employed in the nursery. The plant and the host should be burned as soon as noted.

PALM LEAF: *R. J. L.* The leaf is infested with a scale-insect peculiar to Palms, which may be killed with water at 150° F., or petroleum emulsion used in the proportion as follows: $\frac{1}{4}$ pint petroleum, $\frac{1}{2}$ lb. soft soap, 3 gallons of rain or soft water. Put the soap and petroleum together in a vessel, and with a stick mix them together until there is no liquid left, then add warm water and stir thoroughly. This may be used with a syringe or piece of sponge. The plants should be laid on their sides to drain.

PEACH AND NECTARINE FRUITS INFESTED BY A FUNGUS: *C. Best.* The greenish-black spots are caused by a fungus, *Cladosporium carpophilum*. The sunken spots on the Nectarine by *Gloeosporium laticolor*. Nothing can now be done but to gather affected fruits and burn them. Another year apply the Bordeaux-mixture several times after the fruits set.

PEACH STONES SPLITTING AND FRUIT FALLING FROM TREE: *A Constant Reader.* See reply to a question asked by *A. C. D.*, p. 48, in the *Gardeners' Chronicle* for last Saturday.

POTATO-SETS NOT GROWING: *J. T. S.* The Potatoes sent afford no evidence as to why they did not grow, and it is hopeless to speculate on the subject. [One of the sets, after remaining in our office for a week, has sprouted strongly.]

ROSE: *E. Kromer.* Some old-forgotten variety of no merit whatever, which we are unable to name. Some of the larger Rose nurserymen might recognise it.

RANUNCULUS: *A. B.* As much perennials as *Begonia tuberosa*, Dahlias, Marvel of Peru, Gloriosas, and the like; and certainly not to be classed as annuals, which have to be raised from seeds, and live for a year only.

REFRIGERATOR: *M. F.* We cannot trace the article you require.

ROSE LEAVES SPOTTED: *W. E. M.* There is no fungus present on the leaves. We suggest that the injury has been caused by some caustic wash or insecticide; or that a powerful sun acting through tiny globules of water (as through a lens) has caused the injury.

SHOWER BOUQUET: *G. R.* The more suitable kinds of flowers are those having a drooping habit, or which can be made to droop without imparting unnaturalness to the arrangement. Flowers of a stiff, formal style of growth are suited only for the upper part of the bouquet, and there only in small numbers. Some varieties of the Rose, such as *Niphetos*, *Maréchal Niel*, *W. Allan Richardson*, and a few other T's and H. T's are admissible. We need not

further specify suitable flowers, as with these few hints you ought, with the aid of Fernfronds and *Myrsiphyllums*, to be enabled to make pleasing bouquets of the kind desired. These may measure 2, 3, or more feet in length, and are usually fitted into a wire cornucopia covered with a paper or satin holder.

TENNIS COURT: *Tweedside.* Asphalt or York paving-stone is as good as anything you can employ. The court should have a kerb of thick granite at the front, and the floor should be carefully laid or made.

TOMATOS: *H. L., Ree.* The too-well-known Tomato-spot. Burn the plants, and spray the foliage of the healthy plants with weak Bordeaux-mixture. Not a week passes but we have to give this information, and the disease has been frequently figured.

TURNING A SEMI-DOUBLE BEGONIA FLOWER INTO A PERFECTLY DOUBLE ONE: *R. J. L.* You might increase the size of the flower by rich feeding, but not necessarily add to the number of its petals.

VINE BORDER: *J. D.* Dig out the staple if unsuitable for Vines 2½ feet deep, and to begin with make a 5-feet-wide border; lay in drains of broken stone in V-shaped cuttings 12 feet apart and 4 feet deep, also an outfall drain at the furthest limit of the border when fully made up, giving this drain a fall of 1 in 12. Cover the rubble drains with sods, then fill in the 5-feet space with good pasture loam, roughly chopped, crushed bones about one-sixteenth of the whole, charcoal about the same, lime-rubble one-eighth, but no manure. When settled, plant the Vines in the dormant state, or when growing in April or May.

COMMUNICATIONS RECEIVED.—*St. V. D., Singapore.*—*D. C. T. D., Dr. Charlton Bastian.*—*E. Sandford.*—*W. D. H.* (next week; no charge is made for such advice).—*Grange.*—*M. Buysman.*—*A. J. B.*—*J. B.*—*F. Mason Good.*—*R. W. C.* (photographs).—*T. B. M., Asheville, N. Carolina.*—*Prof. Tschirch, Bern.*—*W. S., Lancaster.*—*W. B., Ramsgate.*—*C. E. B. W.*—*G. B.*—*J. J. W.*—*N. E. B.*—*W. R. R.*—*O. T.*—*W. S.*—*W. C. & Sons.*—*F. J. C.*—*C. S.*—*J. O'B.*—*G. Massee.*—*E. S.*—*S. A.*—*J. B., Wilts.*

DIED.—*Mr. G. C. BINNIE*, suddenly of heart-disease, at the age of thirty-eight years, at Langley House, Aberdeen, at which place he was head gardener.

GARDENING APPOINTMENTS.

MR. CHARLES FOSTER, Gardener at Benham Hall, Wangford, Suffolk, has been appointed Instructor in Horticulture at University College, Reading. His new duties will commence on September 1.

MR. H. J. GILLARD, formerly second Gardener at The Grange, Sutton, as Head Gardener at the Royal Naval College, Osborne, Isle of Wight. He commenced his duties on June 22.

MR. JAMES GRANT, for the past two years Gardener at Linwood Hall, Leven, Fifeshire, as Head Gardener to C. NICHOLSON, Esq., Sawley Hall, Ripon, Yorkshire. He enters upon his duties on August 1.

MR. MARK HUNTLEY, for the past four and a half years General Foreman in the gardens at Normanswood, Farnham, Surrey, as Head Gardener to Lady MURIEL PAGET, Dover House, North Crays, Kent, and commences his duties on September 28.

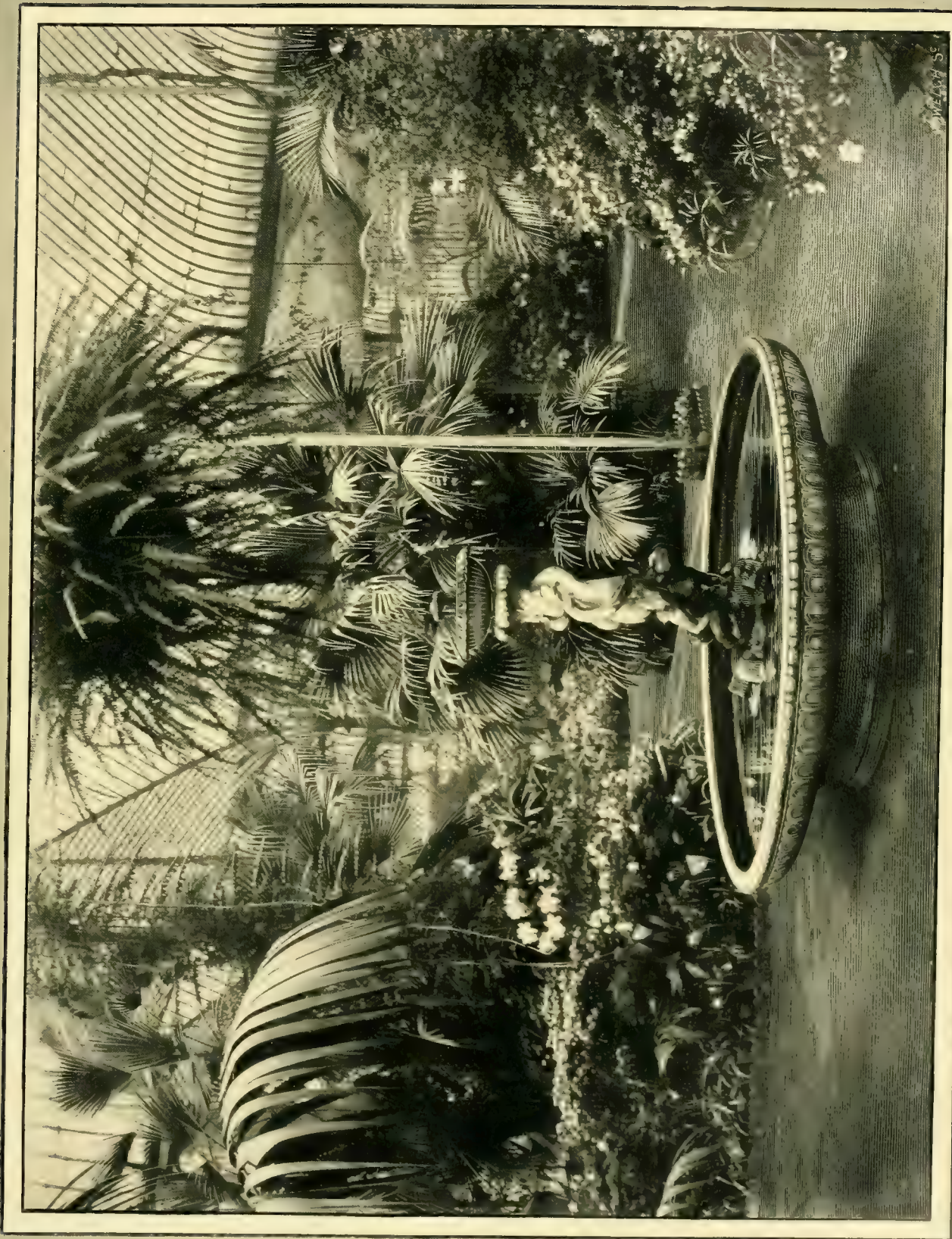
MR. WM. JAS. PENTON, for six years Head Gardener and Orchard Grower at Bowden Hill, Chippenham, as Head Gardener and Instructor at Studley Castle, in connection with Lady WARWICK'S Hostel, now removing from Reading, and commences his duties on August 1.

Continued Increase in the Circulation of the "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, more than*

TREBLED.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is preserved for reference in all the principal Libraries.



VIEW IN THE CONSERVATORY, ROYAL BOTANIC SOCIETY, REGENT'S PARK: PHOTO. BY J. GREGORY,
KINDLY SUPPLIED BY THE SOCIETY.

THE Gardeners' Chronicle

No. 866.—SATURDAY, AUGUST 1, 1903.

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OLD-WORLD NAMES OF PLANTS.

ALATE number contains an article on the British names of Ferns so interesting that one feels diffident about hinting at mistakes, as some at least of these are not due to the writer, but are common to all who have lately written on the subject. All the same, it is a pity they should continue to be perpetrated, however unwittingly. One common mistake is that which assigns its distinctive appellation to the female or Lady Fern because its fronds are not so coarse as those of *Lastrea filix-mas*, the common Male Fern, the female Fern in this instance being *Athyrium filix-femina*. The name as applied to this species is comparatively of modern date, and is one of those unhappy transferences of the botanist that inevitably lead to confusion. The true female Fern of all the old authorities was the common Bracken, *Pteris aquilina*. While the latter still retained its proper and ancient English name, we find *Lastrea filix-mas* reduced to the position of a Polypode—*Polypodium filix-mas*; the *Athyrium* at the same time being *P. filix-femina*, or the "female Polypode," this, not improbably, the thin edge of the wedge that rent the name from its rightful owner. Of course, it is not a very important matter, but the fact remains that only two plants were recognised as (what shall I say?) true Ferns, or, as an Elizabethan writer puts it, "This herbe is of two sorts, male and female." There is a vast accumulation of interesting lore connected with both, their "virtues" being somewhat similar, and even their names being interchangeable, the wounded Scottish hero of Otterbourne, according to the Scots version of the ballad, being laid under the shelter of a "bracken bush," which was

clearly the Male Fern. The Gaelic for both Ferns is also the same word. And not improbably *Athyrium filix-femina* and *Lastrea dilatata* would be confounded with *L. filix-mas*. Both species conferred invisibility on that individual who was fortunate enough to catch the seed during the one moment it was in existence on St. John's Eve; but the female was generally the one that enabled people who "had the receipt of Fern-seed to walk invisible." The unfolding young fronds of the male were known as St. John's, and also Lucky Hands.

The other mistake is that in connection with "Maidenhair." Turner rightly calls "*Adiantum*" Venus-hair, but it was not known in England till found in the eighteenth century in Glamorganshire. The correct meaning of both names can be traced to the peculiar quality possessed by the hair of the Goddess of Love, being unsusceptible to wet; and to the foliage of *Adiantum capillus Veneris* having a like property. The comparison of the stalks to the hair of a woman is quite modern, as in no instance do we find an old writer ever refer to the stalks, but invariably to the hair-like roots. As happens, however, in the case of so many old names, it is impossible to discuss here or to further allude to the sense in which they used the expression "maiden-hair." Culpeper discovered the origin of the name from the fact that a hair-wash was produced from the plant that was at once effectual in "staying hair from falling out," and also as a stimulant to growth! The chief use of the plant, however, was derived from its supposed efficacy as a pectoral. On account of its curative properties, the doctors and herborists were obliged to look about for a substitute, and discovered one in *Asplenium Trichomanes*, the common Maidenhair; but the following species were also employed: *A. adiantum*, *nigrum*, which is the Oak-fern, though the common Polypody, and *Polypodium Phegopteris*, and *P. Dryopteris* have also carried that name. *Asplenium Ruta-muraria*, the *Adiantum album*, or White Maidenhair, also Sage of Life, and Tent-wort, from its employment in wounds, was equally valuable. *A. Trichomanes*, it ought to be said, was the red Maidenhair, to distinguish it from the black and from the white.

According to Turner, *Galium* was called in the North, Maidenhair. This Britten identifies with *Galium Aparine*; but as "petie Muguet" is given as an equivalent, it is plain that is a mistake. The old Muguet—"Mugwet" Gerard calls it—was the common Woodruff, and Petti-mugget as an English name was bestowed, and no doubt rightly, on *Galium verum*. The name Maidenhair was also applied to a moss, *Polytrichum commune*, "*Polytrichum*," as well as "*Trichomanes*," at one period being the official name of the common Maidenhair, and hence doubtless the reason this plant bears it. Ground Ivy and *Clematis vitalba* also possess a right to the name, while *Briza media* is the Fern-grass, or Maidenhair Grass.

These do not exhaust the list, as *Asplenium marinum*, *A. septentrionale*, and *A. viride*, which is the "green" Maidenhair, are other Ferns associated with the name. It is rather disappointing that no reference is made to *Ceterach officinarum* in the article already referred to, the more so as

Spleenworts are discussed, and the above is the true Spleenwort or Milt-waste, pronounced in the North "Melt," spleen and milt being synonymous. Turner and Gerard knew it as *Asplenium*, the former giving as its English equivalent "Citterach, or Scale-fern, or Finger-ferne." As everybody knows, it is a plant one cannot pick up every day, therefore other Ferns, including the male and female, *A. Lonchitis*, *Blechnum spicant*, and others were used as substitutes. "Scale," as applied to the plant, will be obvious to anyone examining the underside of the fronds; and if we are to credit Lightfoot, it was called Finger-fern on account of the fronds being equal in length to a finger.

Ophioglossum vulgatum and *Botrychium Lunaria* are so interesting that a few lines may be spared to discuss their popular names and properties. The former was known in Scotland as Ane-blade, and we also find it called Serpent's-tongue, Adder's-grass, Adder's-spear, and Christ's-spear. A vulnerary ointment called "Green Oil of Charity," described by Gerard, was still in use a hundred years ago, and like the Moonwort, it was a plant of great repute among witches. The Moonwort, according to Bacon, was used by these misguided females in the composition of an ointment with which they anointed their bodies. Bacon calls it Moonshade. It was also employed as a vulnerary. Culpeper and other writers ascribed a curious property to this Fern, that of loosening the shoes off any horse that happened to tread on it with its feet; on that account, he says, country people called it Unshoe-the-Horse. It was also invaluable on occasions when it was desired to enter lock-fast places without a key, the herb having also the property of unlocking doors. If it had removed the locks altogether, as it extracted nails from a horse's foot, that would have been sufficiently wonderful, but the faculty of shooting back a bolt is very wonderful indeed. A modern writer contends that this is the "Martagon," but Turner plainly declares that plant to be *Listera ovata*.

The above is merely a selection of names and properties applicable to Ferns, and I shall conclude by noting that two common plants, *Myrrhis odorata* and common Chervil, were often called Sweet Ferns. *R. P. Brotherston.*

NEW OR NOTEWORTHY PLANTS.

CALODENDRON CAPENSE, THUBG.

THIS tree has been cultivated at La Mortola without a name, as it had never flowered and nobody was able to recognise it. Perhaps in consequence of the very abundant rainfall during last June, or perhaps owing to the fact that the plant does not flower before reaching a certain age, its flowers have not previously been seen here. At present the tree is bearing its extremely pretty flowers on the ends of its branches. From these it was easily recognised as *Calodendron capense*, Thubg., the "Wilde Castanie," or wild Horse-Chestnut of the colonist at the Cape.

There is no figure of it in the *Botanical Magazine*, and that in Nicholson's excellent *Dictionary* does not do justice to the graceful flowers. The structure of these flowers is very curious. The petals are white and reflexed, the outer wall of the stamens is petaloid. They are white or pale rose coloured, with many carmine tubercles.

The flowers are very delicate and do not last long when cut.

I believe there is no other tree of this species of the same size in the whole Riviera. *Alwin Berger, La Mortola.*

[A fine illustration of this tree was given in the *Gardeners' Chronicle*, vol. xix., n.s., 1883, p. 217. Ed.]

A NEW KIND OF CUCUMBER.

At the meeting of the Royal Horticultural Society on July 21 last, a Cucumber was shown by Hobbies, Ltd., nurserymen, Dereham, under the name of Lemon-Cucumber (fig. 26). The fruits were between 3 and 4 ins. in length, and 2 ins. in the lesser diameter; of a pale yellow colour, although immature, and having a texture of flesh and a flavour identical with the ordinary Cucumber. There are numerous small, creamy-white, very early out-of-doors Cucumbers cultivated in Russia, Khiva, and Poland which in some particulars resemble the variety figured; and the French and Dutch gardeners cultivate several of the white-skinned Cucumbers in the open ground, including the one used largely by perfumers, *Bonneuil Large White*.

STRAWBERRIES IN 1903.

THE stools did not pass through the winter as well as usual. The foliage suffered from the sharp November frost and the cold, cutting winds, and probably also from being rather too moist at the root. However, the new foliage came along strongly, and the rains of April and early May gave hope of a fine crop; but the frosts of May retarded the growth at the end of the month, and even in June they made but little headway.

As is well known, in many districts the partly-developed trusses of blossom were greatly injured by the unusually severe spring frosts; but though our Strawberry fields lay high and fully exposed, the damage was not perceptible.

By June 2, some of the king flowers had set; but so cold and unkindly was the rest of the month that they only became fit to pick by June 26. A fine dry and warm time then set in, and the crop, after all its vicissitudes, has been both larger and finer than usual.

Royal Sovereign was quite the first to ripen, and the quality was as good as we ever had of this very useful all-round variety, which, as the *Gardeners' Chronicle* says truly, has so completely become indispensable as to cause some of the older kinds to be neglected.

Probably from the causes named a few sterling sorts were not up to their usual standard.

Vicomtesse de Thury was later, and the fruits very small, but still possessing that rich and distinct flavour which is its characteristic.

President—the gardener's favourite for mid-season supply—was deficient in crop, but good in quality; and its "relative," *Kitley's Goliath*, did not crop over its usual long season. And an old variety—a favourite in this district—*Trollope's Victoria*, was wanting in quantity.

The way in which Strawberries vary in different localities makes it impossible to prophesy whether they will succeed in any particular place; and one constantly hears the praises of varieties which have, years back, been discarded in these nurseries, where 200 kinds have been tested. For these reasons one does not like to condemn any new varieties on a first year's trial. But your readers will doubtless look for some remarks on the recent novelties.

The *Laxton*, planted from pots, 1902, grew strongly, and came ripe three to four days after *Royal Sovereign*, in beds but 8 feet distant. The *Laxton* berries were large and of a fine deep colour; but neither in flavour, texture, nor crop did they reach our expectations. The *Laxton* must have a further trial before we can speak



FIG. 26.—NEW CUCUMBER.

decidedly of its value. It, however, appears to us to have qualities that may command attention as a market berry; and it would be interesting to hear of other growers' experience.

Climax produced very large woolly berries, too soft to travel, and the flavour is here not good; it may improve.

Fillbasket produces a great quantity of smallish berries, but is not equal to older kinds. I, however, hear of large late crops in market culture.

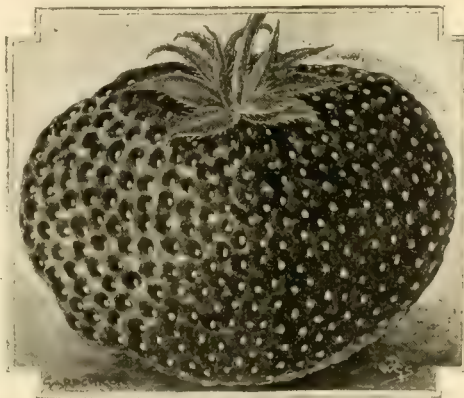


FIG. 27.—STRAWBERRY PRESIDENT LOUBET.

The *Khedive* did not take kindly to our soil, and the fruit was small; it may, however, be, like others, better on a two years' stool. So far, it does not come near *Queen of Denmark* as a prolific bearer of the same mulberry colour. This latter variety is one of our standard late kinds.

Givon's Late Prolific, on the other hand, has proved itself worthy of the First-class Certificate awarded. The stools are hardy, with bold foliage, which shelters the very large and handsome cockscombed or three-sided berries, which are of first-class flavour and have very small seeds. It is the finest of the late kinds, and produces a good succession of fruits.

Trafalgar has given some very handsome bright scarlet fruits; but the crop is a light one, and it is not in point of flavour equal to *President*.

The finest berries and the heaviest crop of any variety has been *Louis Gauthier*; and we are yet gathering good berries. This is a berry all should grow for home use. Its flavour is good, and may be best described as refreshing rather than rich; but as a contrast alone it is worth a place. The gatherings from *Gauthier* have been double that of any other kind.

Filbert Pine has been most excellent, and its flavour grand. As a late mid-season kind it has no equal.

The dwarf-growing *Frogmore Prolific* has been very fine in berry, and the crop has been respectable. It never bears heavily, but its superior flavour makes it indispensable.

The *Countess* has again been the third best for quality.

Doctor Hogg is still the best and sweetest, and *British Queen* is No. 2. When we can get this latter race with the crop of *Royal Sovereign*, we shall have no more to wish for.

That bright and free-bearing sort, *Sir Charles Napier*, has done better than usual, but it is a preserving kind and not up to dessert quality.

Other little known but fine berries are *Walluff* and *Dumbarton Castle*. These produce a heavy crop of very large berries, which ripen and finish within fourteen days.

Latest-of-All has given us fine berries, but the flavour varies greatly; one day it is first-class, and another only second-rate. It evidently requires very high culture, which it does not get in our field-growth.

Waterloo, *Elton Pine*, and *Eleanor* are still three good useful late kinds.

Grosse Sucrée, *Auguste Nicaise*, and *Edouard Lefort* are only Strawberries for forcing; but *Royal Sovereign* is so fine that they are going out of use.

We should say, however, that the white (or pink) *Louis Gauthier* is very fine for forcing, and has rich sweet flavour.

Mentmore with us is no advance on *Noble*.

Sir Joseph Paxton has been remarkable this year for crop and continuance in bearing, and yet remains the market berry for profit.

The rains of June 17 and 19 have been grand for the young runners. *George Bunyard, Royal Nurseries, Maidstone.*

STRAWBERRY PRESIDENT LOUBET.

THE above-named new variety has as its parents *Waterloo* and *Sir Charles Napier*, wrongly given as *Lord Napier* in our report of the meeting of the Royal Horticultural Society. The fruit (fig. 27) is showy, dark-coloured like *Waterloo* from which in that respect it scarcely differs, and of more than average size. It was exhibited by Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nursery, King's Road, Chelsea. The variety is to be tried at the Royal Horticultural Society's gardens, Chiswick.



FIG. 28.—RIBES SPECIOSUM: FLOWERS DEEP CRIMSON.

RIBES SPECIOSUM.

THIS, perhaps the finest of the species belonging to the Gooseberry section of the genus *Ribes*, is frequently looked upon as a plant which, if not actually demanding wall-protection, requires at all events a very sheltered position. Such conditions are not always necessary for it, however, in proof of which I may say that in the end of last month I found two healthy plants growing in an exposed position in an open border in Messrs. Dicksons & Co.'s nurseries at Craigmillar, Edinburgh, which were literally covered with flowers, as the accompanying photograph of a branch taken from one of them shows (fig. 28). The plants, which have occupied the same position for several years, are exposed to practically all the points of the compass, but notwithstanding this they are growing vigorously, and are at present sending up strong shoots from the base.

The species, which is a native of California, is a very striking one. The flowers, which are of a deep-crimson colour, and similar in form to those of a small-flowered *Fuchsia*, are produced all along the branches of the previous year, from which they depend singly or in twos or threes; and the foliage, which is of a deep-green colour, is similar to that of the common Gooseberry. The plant deserves more attention than is generally bestowed upon it; and if it were tried on high, dry situations would probably give good results, even although the exposure might be somewhat severe. *A. D. Richardson, Edinburgh.*

MARKET GARDENING.

THE COLOURING OF BLACK HAMBURGH GRAPES.

CALLING on the gardener at Manresa House lately, to see the large Vine there, I was delighted to find such fine bunches, well coloured, and in every way so creditable to the son of the late Mr. M. Davis. In order to obtain such alluring colour and density of bloom on the berries, the special requirements of the variety must receive due attention, and a vinery must be devoted to the Vine.

I am led to make this statement on seeing large consignments of Black Hamburgh of the worst possible colour now being sent to Covent Garden Market. The sender and grower is successful with the varieties Black Alicante and Gros Colmar under apparently similar conditions to the Black Hamburgh Grapes, with the exception that the first two have a longer rest, the vinery being empty of pot-plants for a much longer period of time. The Black Hamburgh Vines, on the contrary, do not get the necessary attention, the

result being lack of colour. Market cultivators finding that one crop taken from a glasshouse is not sufficiently remunerative unless it is of first-rate quality and weight, make use of vineries for other things in pots.

At present prices Grapes of inferior quality sell at 6d. per lb., whilst better produce sells at 1s. 6d. to 2s. per lb. It should, however, be remembered that the cultivator of the cheaper Black Hamburgh Grapes must have space in which to grow his plants, especially as he has to grow twice as many of the latter as was the case ten years ago to get the same returns. The fruit of the Black Hamburgh will not put on the best colour unless the Vine be treated according to its needs, whereas the Black Alicante colours more readily.

Anent this matter I may mention that I called recently on Mr. F. E. Sparkes, West Court Nurseries, Worthing, and noticed the lack of greenish and colour in the fag-end of a crop of

Grapes; he was very emphatic as to the cause namely, that a number of *Richardias* had been kept in the vineries for too long a period of time. Not only do these plants require much water at the roots as to make them unsuitable for placing in vineries of Black Hamburgh whilst the fruit is colouring, but ventilation has to be curtailed, and the exhalations and dampness arising from the *Richardias* during the night are inimical to good colouring. Nor are the borders so sweet as they should be, or the Vine-roots so free and healthy near the surface as would have been the case had *Richardias* not been kept in the vineries. Mr. Sparkes will not follow this practice in the future. *Stephen Castle.*

[The evil effects on Grapes of growing other kinds of plants in vineries after the fruit has begun to colour have been known for many years to professional gardeners, who generally abstain from the practice if the glasshouse accommodation provided admits of it being done; but market cultivators are often lamentably ignorant of special knowledge of the business in which they embark, hence the appropriateness and value of our correspondent's remarks. Ed.]

BEGONIA MARIE BOUCHETT.

AMONG the plants that received an Award of Merit at the Royal Horticultural Society's meeting on July 21 last was a variety of fibrous-rooted *Begonia*. It is reminiscent of *B. boliviensis* in the arrangement of the stamens, which are disposed in long spikes and not in tufts, and which have become petals, giving the flower the appearance of a bright-coloured rosette. It is a suitable plant for placing in a basket or covering a wall space in a warm-house, having strong growths of 4 feet in length.

The plant was from the gardens of W. Greenwell, Esq., Marden Park, Woldingham (gr., Mr. Lintott).



FIG. 29.—BEGONIA MARIE BOUCHETT: FLOWERS RED.

REPORT ON THE CONDITION OF THE FRUIT CROPS.

[FROM OUR OWN CORRESPONDENTS.]

THE WORDS "AVERAGE," "OVER," OR "UNDER," AS THE CASE MAY BE, INDICATE THE AMOUNT OF THE CROP; AND "GOOD," "VERY GOOD," OR "BAD," DENOTE THE QUALITY.

** FULLER COMMENTS WILL BE GIVEN IN THE FOLLOWING NUMBERS. SEE ALSO LEADING ARTICLE ON PAGE 78.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEC- TARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
SCOTLAND—										
0, Scotland, N.										
CAITHNESS	Over; good	Average; good	.....	Average; good	.....	.....	Average; good	Over; very good	.....	W. F. Mackenzie, The Gardens, Thurso Castle, Thurso
MORAYSHIRE	Under	Average	Average	Under	Under	Average	Average	Average	.....	D. Cunningham, Darnaway Castle Gardens, Forbes
ORKNEYS	Under; good	Under; bad	.....	Under; good	Under; very good	.....	Under; good	Under; good	.....	Thos. Macdonald, Balfour Castle Gardens, Kirkwall
ROSS-SHIRE	Over; good	Average; good	Over; good	Under	Under; good	Average	Over; very good	Average; very good	.....	Henry Henderson, Cromarty House Gardens, Cromarty
SUTHERLAND	Under	Under	Under	Under	.....	.....	Under	Average	.....	D. Melville, Duhrobin Castle Gardens, Golspie
1, Scotland, E.										
ABERDEENSHIRE ...	Under; bad	Under; bad	Average; good	Average; good	.....	.....	Under; good	Average; good	.....	James Grant, Rothie Norman Gardens, Rothie
	Under	Under	Average	.....	.....	.....	.....	Average	.....	John Brown, Delgaty Castle Gardens, Turriff
	Under	Under	Average	Average	.....	Under	Under	Average	.....	Simon Campbell, Fyvie Castle Gardens, Fyvie
	Under; bad	Under; bad	.....	Under	.....	.....	Average	Under	.....	John M. Troup, The Gardens, Balmoral
BANFFSHIRE	Under	Under	Average; good	Under	Under; bad	Under	Average	Average; good	.....	J. Fraser Smith, The Gardens, Cullen House
BERWICKSHIRE	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Average; good	Average; good	Average; good	Under	Jas. Gemmell, Ladykirk Gardens, Norham-on-Tweed
	Under	Under	Under	Under	.....	.....	Average; good	Over	.....	John Cairns, The Hirsch Gardens, Coldstream
CLACKMANNAN-SHIRE	Average	Under	Under	Under	Under	Under	Average	Under	.....	A. Kirk, Norwood Gardens, Alloa, N.B.
	Under; bad	Under; bad	Under; bad	Average; good	Under	Under	Average	Average	.....	A. Blackwood, Academy Gardens, Dollar, N.B.
FIFESHIRE	Under	Under	Under	Under	.....	Under	Over	Over; good	.....	Wm. Henderson, Balbirnie Gardens, Markinch
	Average	Under	Average	Average	Under	Under	Average	Average	.....	Peter McRobbie, Tarvit Gardens, Cupar
FORFARSHIRE	Under	Under	Average	Average	.....	.....	Under	Average	.....	W. McDowall, Brechin Castle Gardens, Brechin
	Under	Under	Under	Average	Under	Under	Average; good	Average; good	.....	Thos. Wilson, Glamis Castle Gardens, Glamis
	Under	Under	Under	Under	.....	.....	Average; good	Average; very good	.....	William Alison, Seaview Gardens, Monifieth
HADDINGTONSHIRE	Under	Under; good	Under; good	Under	Under	Under; good	Average; good	Average; good	.....	R. F. Brotherton, Tynninghame Gardens, Prestonkirk
	Average; good	Under; good	Under	Average	Under; bad	Average; very good	Average; very good	Average; good	.....	William Galloway, Gosford Gardens, Longniddry
KINCARDINESHIRE..	Average; good	Under; bad	Under; good	Average; good	Under; good	.....	Over; good	Over; good	.....	John M. Brown, The Gardens, Blackhall Castle, Banchory
	Under	Average	Average	Average	.....	.....	Average	Average	.....	W. Knight, Fasque Gardens, Lawrencekirk
	Under; bad	Under; bad	.....	Average; good	.....	.....	Under; good	Average; good	Under	James Whytock, Dalkeith Gardens, Dalkeith
MIDLOTHIAN	Under; good	Under; bad	Under; good	Average; good	.....	Under	Under; very good	Average; good	.....	D. Kidd, Carbery Tower Gardens, Musselburgh
	Under	.....	Under	Over; good	.....	.....	Average	Under	.....	Malcolm McIntyre, The Glen Gardens, Innerleithen
PEEBLESSHIRE	Under; bad	.....	Under; good	Average; very good	Under; good	.....	Average; good	Average; good	.....	William Young, Stobo Castle Gardens
	Under	Under	Under	Under	.....	.....	Under; Raspberries over	Over; good	.....	Wm. McDonald, Cardrona, Traquair, Innerleithen
	Under; good	Under	Under	Average; good	Under	Under	Average; good	Over; very good	.....	J. Farquharson, Kinfauns Castle Gardens, Perth
PERTHSHIRE	Average on walls; standards bad	Under	Under	Average; good	.....	.....	Average; good	Average; good	.....	John Robb, Drummond Castle Gardens, Crieff
	Under; bad	Under; bad	Average; good	Average; good	Under; bad	Under	Average; good	Over; very good	.....	James Ewing, Castle Menzies Gardens, Aberfeldy.
	Under	Average	Average	Average; good	.....	.....	Average	Average; fruit small	.....	George Croucher, Ochertyre, Gardens, Crieff
ROXBURGHSHIRE ...	Under	Under	Average	Average	Under	Under	Average	Average; good	Under	William Gordon, Wolflee Gardens, Bonchester, Hawick
6, Scotland, W.										
ARGYLLSHIRE	Under; bad	Under; bad	Under; good	Under; good	Under; bad	.....	Under; good	Average; good	Under; bad	D. S. Melville, Poltalloch Gardens, Lochgilphead
	Average; good	Under	Average; good	Under	.....	.....	Average; good	Over; good	Average; good	Henry Scott, Torloisk Aros, Isle of Mull
	Under	Under	Under	Average	.....	.....	Under; good	Under	.....	G. Taylor, Castle Gardens, Inveraray
AYRSHIRE	Under	Under	Under	Under	Under	.....	Under	Average; good	.....	William Priest, Eglinton Gardens, Kilwinning
	Under; bad	Under; bad	Under; bad	Under; bad	Under	Under; good	Under; bad	Over; very good	Under; bad	D. Buchanan, Bargany Gardens, Dailly
BUTESHIRE	Under	Under	Under	Average; good	Under	Under	Under	Average; good	.....	Thomas Gordon, Ewanfield Gardens, Ayr
DUMBARTONSHIRE...	Under	Under	Under	Very good	Bad	.....	Under	Average	.....	M. Heron, Mount Stuart House Gardens, Rothesay.
	Average	Average	Average	Average	.....	Under	Average; good	Average; good	Under	George McKay, Balloch Castle Gardens, Balloch
							Average; Raspberries excellent	Average	.....	D. Stewart, Knockderry Castle, Cove

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEC- TARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
6, Scotland, W.										
DUMFRIESSHIRE	Under	Under	Average; good	Average	.....	.....	Average; good	Average; good	.....	D. Inglis, Drumlanrig Gar- dens, Thornhill
	Under; bad	Under; bad	Under; bad	Under; bad	.....	Under; good	Under; good	Average; good	.....	John Urquhart, Hoddum Castle Gardens, Eccle- fechan
	Under	Under; bad	Average	Average; good	.....	.....	Average; good	Average; good	.....	R. Wishart, Burnfoot Gar- dens, Langholm
	Under; bad	Under; bad	Under; good	Under; good	Under; bad	Under; bad	Under; good Raspberries	Average; good	Under	John Mackinnon, Terregles Gardens, Dumfries, N.B.
	Under; bad	Under; bad	Under; bad	Under; good	.....	.....	Under; good	Under; good	.....	James McDonald, Dryfeholm Gardens, Lockerbie
KIRKCUDBRIGHT- SHIRE	Under	Under; good	Under; good	Average	Under	.....	Average; very good	Average; very good	.....	F. McFadyen, Glenlie Park Gardens, New Galloway
	Under; poor	Under; good	Average; good	Under; very good	Under; good	.....	Average; good	Average; good	.....	William Thomson, Cally Gar- dens, Gatehouse
LANARKSHIRE	Under; bad	Under; bad	Average; good	Average; good	.....	.....	Under; good	Average; good	.....	James Miller, Castlemilk Gardens, Rutherglen
NAIRNSHIRE	Under	Under	Under; good	Under; bad	Under	Under	Average	Average; good	.....	John Anderson, Holme Rose Gardens, Croy, Gollanfield
RENFREWSHIRE	Under	Under	Under	Under	Under	Under	Average	Average; good	.....	John Methven, Blythswood Gardens, Renfrew
	Under	Under	Under	Under	.....	.....	Under	Under; good	.....	Thomas Lunt, Ardgowan Gar- dens, Inverkip
STIRLINGSHIRE	Under	Under	Under	Average	.....	Under	Average	Under; good	.....	Alex. Crosbie, Buchanan Gardens, Drymen
WIGTONSHIRE	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	.....	Under; good	Average; good	.....	John Bryden, Dunragit Gar- dens, Dunragit
	Under	Under	Under	Under; bad	Under	Under	Average	Average	Under	James Day, Galloway House Gardens, Garliestown
ENGLAND—										
2, England, N.E.										
DURHAM	Under; bad	Under; bad	Under; bad	Under	Under	Under	Under	Under	Under	Robert Draper, Seaham Hall Gardens, Seaham Harbour
	Under; bad	Under; bad	Under; bad	Under; bad	.....	Under	Under	Over	.....	James Noble, Woodburn Gar- dens, Darlington
NORTHUMBERLAND	Under; bad	Under; good	Under	Average	Average	Average; good	Under; good	Average; good	.....	George H. Ackroyd, Howick Hall Gardens, Lesbury
YORKSHIRE	Under	.....	Under	Under	Under	Average; good	Average; good	Average; good	.....	John McClelland, Ribston Hall Gardens, Wetherby
	.....	Under; bad	.....	Under; bad	.....	Nice crop in open shed	Under	Average; good	.....	Bailey Wadds, Birdsall Gar- dens, York
	Under	Under	.....	.....	.....	.....	Average	Over	.....	J. Simpson, Studfield House, Wadley, Sheffield
	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; good	Average; good	Under	Jno. Snell, Farnley Hall Gardens, Otley
	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; good	Average; good	Under; bad	J. S. Upex, Wigganthorpe, York
	Under	Under	Under	Under	Under	Under	Under	Average	Under	John Allsop, Dalton Holme Gardens, Beverley
	Under	Under	Under	Under	Under	Under	Average; good	Over; good	Under	Chas. Simpson, Newby Hall Gardens, Ripon
	Under; bad	Under; bad	Under; bad	Under; bad	Under	Average	Under; bad	Average; good	.....	Henry J. Clayton, Grimston Gardens, Tadcaster
	Under	Under	Under	Under	.....	Under	Average	Average; good	.....	G. Batley, Wentworth Castle Gardens, Barnsley
	Under; good	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Average; bad	Over; very good	.....	S. Keepece, Thirkley Park Gardens, Thirsk
	Under; bad	Under; bad	Under; bad	Under	.....	Under; bad	Average; good	Over; very good	Average	A. E. Sutton, Castle Howard Gardens, Welburn, York
3, England, E.										
CAMBRIDGESHIRE ...	Under; bad	Under; bad	Under; bad	Under; bad	Under; good	Under; bad	Under; good	Average; good	Average; good	R. Alderman, Babbaham Hall Gardens, Cambridge
	Under	Under	Under	Under	Under	Under	Average	Average	.....	James Machar, Hatley Park Gardens, Sandy, Bedford- shire
HUNTINGDONSHIRE	Under; good	Under; bad	Under; good	Under	Average	Average; good	Average; good	Average; very good	Under	F. W. Seabrook, Ramsey Abbey Gardens
ESSEX	Under	Under	Under	Under	Average	Average	Under	Average	Average	H. Lister, Easton Lodge Gardens, Dunmow
	Under	Under	Under	Under	Under	Under	Average	Average	.....	H. W. Ward, Lime House, Rayleigh
	Under	Under	Under	Under	Under	.....	Average	Over	Under	W. R. Johnson, Stanway Hall Gardens, Colchester
	Under; bad	Under; bad	Under; bad	Under; bad	.....	Under; bad	Average; good	Average; good	.....	Charles W. Hodges, Havering Park Gardens, Romford
LINCOLNSHIRE	Under	Under	Under	Under; bad	Under	Under	Under	Average; good	.....	H. Vinden, Harlaxton Manor, Grantham
	Under; good	Under; bad	Under	Under	.....	Under	Under	very good Average; good	Under	John Rowlands, Manor Gar- dens, Bardney
	Under; bad	Under; bad	Under; bad	Average; good	Under; bad	Under; bad	Average; good	Average	Under	James D. Coward, Haver- holme Priory, Sleaford
NORFOLK.....	.....	.....	Much under	Under; good	Under	Average; good	Average; good	Average; bad	Under	E. C. Parslow, Shadwell Court Gardens, Thetford
SUFFOLK	Under	Under	Under	Under	Average	Under	Under	Over; good	Under	J. Wallis, Orwell Park Gar- dens, near Ipswich
	.....	Under; good	.....	Under	Under	Under	Under	Over; very good	.....	H. Fisher, Flitton Road, Bungay
	Under; good	Under; bad	Under; good	Average; good	Average; good	Under; bad	Under; good	Over; very good	Under	C. Foster, Henham Hall Gardens, Wangford
4, Midland Counties.										
BEDFORDSHIRE	Under	.....	.....	.....	.....	.....	Under	Under	.....	R. Lewis Castle, Ridgmont, Aspley Guise
	.....	.....	.....	.....	.....	.....	Under	Average; good	.....	H. Nunn, Cranfield Court Gardens, Woburn Sands
	Under	Under	Under	Under	Under	Under	Average	Average	Average	H. W. Nutt, East End, Flit- wick, Ampthill
	Under	Under	Under	Under	.....	Under	Under	Under	Under	Richard Calvert, Woburn Abbey Gardens, Beds
	Under	Under	Under	Under	Average	Under	Average	Average	Average	George Mackinlay, The Gar- dens, West Park, Ampthill
BUCKINGHAMSHIRE	Under; bad	Under; bad	Under; bad	Under	Under	Under; bad	Under	Under; good	Average	James Wood, Hedsor Park, Bourne End
	Under; good	Under; good	Under; good	Under; bad	Under; good	Under; good	Under; good	Average; good	Under; good	John Fleming, Wexham Park Gardens, Slough
	Under; good	Under; bad	Under; bad	Under	Average	Under	Average	Average	Under	Chas. Page, Dropmore Gar- dens, Maidenhead
	Under	Under	Under	Under	Under	.....	Under	Over	Under	Geo. Thos. Miles, Estate Office, High Wycombe

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEC- TARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
4, Midland Counties.										
BUCKINGHAMSHIRE	.....	.....	.....	.....	.....	.....	Under; bad	Under; bad	.....	W. Hedley Warren, Aston Clinton Gardens, Tring
	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under	Average; good	Under	H. Walters, Waddesdon Gardens, Aylesbury
	None	None	None	None	None	None	Under	Good	Under	J. Smith, Mentmore Gardens, Leighton Buzzard
C HESHIRE	Under; bad	Under; bad	Under; bad	Under	Under	Under	Average	Average; good	.....	W. C. Breese, Moreton Hall Gardens, Congleton
	.....	.....	.....	.....	.....	.....	Over; good	Under	.....	C. Wolley Dod (Rev.), Edge Hall, Malpas
	.....	.....	Under	Under	Under	Under	Under	Under	Average	Charles Flack, Cholmondeley Castle Gardens, Malpas
DERBYSHIRE	Under	Under	Under	Under; good	.....	.....	Under; good	Under; good	.....	W. Chester, Chatsworth Gdns.
	Under	.....	.....	Under; bad	.....	.....	Under; bad	Average; good	.....	J. C. Tallack, Shipley Hall Gardens, Derby
	Under	Under	Under	Under	.....	Under	Under	Average; good	Under	T. Keetley, Darley Abbey, Derby
HERTFORDSHIRE ..	Under	Under	Under	Under	.....	Under	Under; bad	Over; good	Under	Thomas Hedley, Lane House Gardens, King's Walden, Hitchin
	.....	.....	.....	Under	.....	.....	Under	Average	Under	W. B. Morle, Frithsden Floral Gardens, Berkhamsted
	Under; bad	Under; bad	Under	Under	Under	Under	Over; good	Over; very good	Average	C. E. Martin, The Hoo Gardens, Welwyn
	Under	.....	Under	.....	.....	.....	Average	Over; good	Average	Thos. Rivers & Son, Sawbridgeworth
	.....	.....	.....	.....	.....	.....	Much under	Average; small	.....	E. Hill, Tring Park Gardens, Tring
	Under; bad	Under; bad	Under; bad	Average	.....	Average; good	Under	Over	Under; bad	Edwin Beckett, Aldenham House Gardens, Elstree
LEICESTERSHIRE	Under; bad	Under	Under; bad	Under; bad	Average	Under	Under	Average	Under	Chas. Deane, Cassiobury Gardens, Watford
	Under	Under; bad	Under	Under; good	Under	.....	Under	Average; good	Under	G. Norman, Hatfield House Gardens, Hatfield
	Under	Under	Under	Under	.....	Under	Under	Very good	.....	George Milford, Egerton Lodge, Melton Mowbray
	.....	.....	.....	Under; bad	Under; good	Under; bad	Under; bad	Average; good	.....	Daniel Roberts, Prestwold Hall Gardens, nr. Loughborough
	.....	Under	Under	Under	Under	Under	Average; good	Over; good	Over; good	W. H. Divers, Belvoir Castle Gardens, Grantham
	.....	.....	.....	.....	.....	.....	Under; good	Over; good	.....	Wm. Duncan, Bosworth Hall Gardens, Rugby
NORTHAMPTON- SHIRE	Under; good	Under	Under; good	Average; good	Under	Under	Average; good	Over; very good	Average	W. Wadsworth, The Nurseries, Barkley Lane, Queensborough
	Under; bad	Under; bad	Under; bad	Under	Under; bad	Under; bad	Under; good	Over; good	Average; good	Robert Johnston, Wakefield Lodge, Stony Stratford
	Under; good	Under; good	Under; good	Under; bad	Under; bad	Under; good	Average; good	Over; good	Under; bad	H. Turner, Fineshade Abbey Gardens, Stamford
NOTTINGHAMSHIRE	.....	.....	.....	Under; bad	Under; bad	Under; bad	Under; good	Under; good	.....	James Shennan, Holdenby House Gardens
	Under	Under	Average	Average	.....	Over	Average	Under	Under	Amos Parr, Holme Pierrepont Hall Gardens, Nottingham
	Under	Under	Under; bad	Under	Under; bad	Under	Under; bad	Good	Under; bad	J. Lyon, Home Farm, Ossington, Newark
OXFORDSHIRE	Under	Under	.....	.....	Under	Under	Under	Average	Under	J. Roberts, Welbeck Abbey Gardens, Worsop
	Under; bad	Under; bad	Under	Under; good	Average; very good	Under; good	Average; very good	Average; good	Average; good	J. R. Pearson & Sons, Lowdham, Notts
	Under	Under	.....	Under	.....	.....	Under; good	Over; very good	.....	P. O. Knowles, Friar Park Gdns., Henley-on-Thames
SHROPSHIRE	Much under	.....	Scarcely any	Under	.....	Under	Gooseberries very good	Average	Under	John A. Hall, Shipplake Court Gdns., Henley-on-Thames
	Under; bad	Under; bad	Under; bad	Under	Under	Under; bad	Under	Average; good	Average	A. J. Long, Wyfold Court Gardens, Reading
	.....	.....	.....	.....	Under	.....	Under	Average	Under	A. S. Kemp, Broadway Gardens, Shifnal
STAFFORDSHIRE	Under; bad	Under; bad	Under; bad	Under; bad	.....	Under; bad	Average; good	Average; very good	Under; bad	James Loudon, The Quinton Gardens, Chirk, Ruabon
	Under; bad	Under; bad	Under; bad	Average	Under; bad	Under	Average	Average; good	Under; bad	T. Bannerman, Blithfield Gardens, Rugeley
	Under; bad	Under; bad	Under; bad	Under; good	Under; bad	Under; good	Under; good	Under; good	Under; bad	G. H. Green, Enville Hall Gardens, Stourbridge
	Under	Under	Under	Under	Under	Under	Average	Good	Under	G. Woodgate, Rolleston Hall Gardens, Burton-on-Trent
	Under	Under; bad	Under; bad	Average	.....	Under	Average	Over; good	Under	Edwin Gilman, Alton Towers Gardens, Stoke-on-Trent
	Under	Under	Under	Average	.....	Under	Under	Average	.....	W. Bennett, Rangemore Gardens, Burton-on-Trent
WARWICKSHIRE	Under	Under	Under	Under	Under	Under	Under	Average	.....	J. Wallis, Woore Gardens, Newcastle-under-Lyme
	Under	Under	Under	Under	Under	Under	Under	Over	Under	J. Rodger, Charlecote Park, Gardens, near Warwick
	Under; bad	Under; bad	Under; bad	Under; good	Average; good	Under; good	Under; good	Over; very good	Under; bad	H. T. Martin, Stoneleigh Abbey Gdns., Kenilworth
	Under; bad	.....	.....	.....	Under	.....	Under; good	Average; good	Under; bad	A. D. Christie, Ragley Hall Gardens, Alcester
	.....	.....	.....	Under	.....	.....	Under	Over; good	Under	W. Miller, Berkswell
	Under	.....	.....	.....	.....	.....	Average	Average	.....	Thomas Masters, Estate Office, Lower Shuckburgh, Daventry
	Under; very few	Under; very few	Under; very few	Average	Average	Under	Average	Average	.....	Jno. Masterson, Westen House, Shipston-on-Stour
5, Southern Counties.										
BERKSHIRE	Under; bad	Under	Under	Under	Under	Under	Average	Average	Under	J. Howard, Benham Park Gardens, Newbury
	.....	Under	Under	Under	Under	Under	Under	Under	Under	William Fyfe, Lockinge Gardens, Wantage
	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under	Under	Under	Thos. Plumb, Holme Park Gardens, Sonning
	.....	.....	.....	Under	Under	Under	Average	Over	.....	James Coombes, Englefield Gardens, Reading
	Under	Under	Under	Under	Under	.....	Average; good	Average; very good	Average	James Strachan, Rosehill House Gardens, Henley-on-Thames
	Bad	Bad	Bad	Under	Under	Under	Under	Good	Average	Robt. Fenn, Sulhamstead, near Reading
DORSETSHIRE	Under; bad	Under; bad	Under; bad	.....	.....	Under; bad	Under; good	Over; very good	Under	Thos. Denny, Down House Gardens, Blandford.

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEC- TARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
5, Southern Counties.										
DORSETSHIRE	Under; bad	Under; bad	Under; bad	Under	Under; bad	Under; good	Average; good	Average	Under	Ben Campbell, Kingston House Gdns., Dorchester.
	Under	Under; bad	Under	Under	Under; bad	Under	Under	Over; very good	Under	T. Turton, Castle Gardens, Sherborne
	Under; good	Under; good	Under; bad	.....	.....	.....	Over; very good	Average; good	.....	Joseph Benbow, Abbotsbury Castle Gardens, Dorchester
HAMPSHIRE	Under	Under	Under	Under	Under	Under	Average; good	Average; good	Under	Arthur Lee, Palace House Gardens, Beaulieu, Brockenhurst
	Under; bad	Under; bad	Under	Under	Under	.....	Average; good	Average; good	Average	Edwin Molyneux, Swanmore Park, Bishop's Waltham
	Under	Under	Under	Under	Under	Under	Average; good	Over; very good	Under	A. G. Nichols, Strathfieldsaye Gardens, Mortimer, R.S.O.
	Bad	Bad	Under	Average	Under	Bad	Average; good	Average; good	.....	J. Wasley, Sheriff Manor Gardens, Basingstoke
	Under; very bad	Under; bad	Under; good	Under; bad	Under; bad	Under	Under	Average; good	Average	John Bowerman, Hackwood Park Gardens, Basingstoke
	Under; bad	Under; bad	Under; bad	.....	Under; bad	Under; bad	Over; good	Over; good	.....	Noah Kneller, Malshanger Park Gardens, Basingstoke
	Under; bad	Under; bad	Under; bad	Average	Under	Under	Average	Average; good	Average	Thos. Leith, Beaurepaire Park Gdns., Basingstoke
KENT	Under	Under; bad	Under	Average	Average	Under	Average; good	Average; good	Average	W. Jarman, Preston Hall Gardens, Aylesford
	Under	.....	.....	Average	Under; bad	Under	Average	Average; very good	Under	Henry Elliott, Wilderness Gardens, Sevenoaks
	Under; bad	.....	Under; failure	Under; failure	Under	Under	Average	Over; good	Under; partial	Geo. Bunyard, Royal Nurseries, Maidstone
	Under	Under	Under	Under	Under	.....	Over; good	Much over; good	Under	William Lewis, East Sutton Park Gardens, Maidstone
	Average; good	Under	Under	Under	Average	.....	Under	Over; good	Under	Geo. Fennell, Bowden Gardens, Tonbridge
	Under	Under	Under	Under	.....	.....	Under	Average	Under	B. Champion, Mereworth Gardens, Maidstone
	Very bad	Bad	Bad	Bad	.....	.....	Average	Good	Bad	George Lockyer, Market Gardener, Mereworth, Maidstone
	Under; good	Under; bad	Under	Under; good	Under	Under	Under	Under	Under	Geo. Hutt, Lullingstone Castle Gardens, Eynsford
	Under; bad	Under; bad	Under	Under	Average	Average	Average; good	Over; good	Average	A. Wilson, Eridge Castle Gardens, Tunbridge Wells
	Average; very good	Under	.....	Morello under; bad	under; bad	Under	Under	Average; good	.....	W. E. Humphreys, Blendon Hall, Bexley
MIDDLESEX	Under; bad	Under; bad	Under; good	Under; good	Average; good	.....	Average; good	Average; good	Average; good	G. Woodward, Barham Court Gardens, Maidstone
	Under; bad	.....	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Average; good	Under	George Wythes, Syon House Gardens, Brentford, W.
	Under; bad	.....	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	S. T. Wright, R.H.S. Gardens, Chiswick, W.
	Under; bad	Under; bad	Under; bad	Average; good	Under; bad	Under; bad	Average; good	Average; good	Under; bad	H. Markham, Wrotham Park Gardens, Middlesex
	Under; good	.....	.....	Average; good	Under; good	.....	Average; good	Average; good	.....	Jas. Hudson, Gunnersbury House Gardens, Acton, W.
	.....	.....	.....	Under	.....	.....	Average	Average	Over; good	W. Watson, Harefield Place Gardens, Uxbridge
	Under	Under; bad	Under; bad	Under	Under	.....	Under	Under	.....	W. Bates, Cross Deep Gardens, Twickenham
	.....	.....	.....	Very bad	Very bad	.....	Under	Very good	.....	R.H. Cronk, Cranford House Gardens, Hounslow
SURREY .....	.....	.....	.....	.....	Average	.....	Under	Over; good	Under	William Bain, Burford Gardens, Dorking
	Under; bad	Under; bad	Under; good	Under; good	Average; good	Under; good	Average; good	Over; very good	Average; good	W. P. Bound, Gatton Park Gardens, Reigate
	Average; good	Under; bad	Under; bad	Average; good	Under; bad	Under; good	Average; good	Average; good	.....	J. F. McLeod, Dover House Gardens, Roehampton
	Average; very good	Under; bad	Under	Average; good	Average; good	Under	Over; very good	Over; good	Under	G. J. Hunt, Ashted Park Gardens, Epsom
	Average	Under	Under	.....	.....	.....	Average	Under	.....	W. Wilks (Rev.), Shirley, Croydon
	Under; good	Under	Under	Under	.....	.....	Average; good	Average; good	Under	C. J. Salter, Woodhatch Lodge Gardens, Reigate
	Under; small	Under	Under	Under	Under	Under	Under	Average	Under	Alex. Dean, Kingston-on-Thames
	Under; bad	Under	Under; bad	Under	Under	.....	Average; good	Over; very good	Average; good	Geo. Halsey, Riddings Court Gardens, Caterham
	Under; good	Under; good	Under	Average; good	Average; good	Under; bad	Average; good	Over; good	Under; good	W. Honess, Cobham Park Gardens, Cobham
	Under	None	Under	Under	Under	Under	Average	Under	Average	Geo. Kent, Norbury Park Gardens, Dorking
SUSSEX	Under; bad	Under; bad	Under; bad	Under; bad	Under	Under	Average; good	Average; good	Average	W. C. Leach, Albury Park Gardens, Guildford
	Practically none	.....	.....	Average	Under	.....	Under	Average; good	Under	Alex. Reid, Possingworth Gardens, Cross-in-Hand
	Under	Under	Under	Under	Average	Under	Average	Over	Under	E. Bunbury, Arundel Castle Gardens, Epsom
	Under; bad	Under; bad	Under; bad	Under; good	Under; good	Average	Under; good	Over; good	Under	W. W. Smith, West Dean Park Gardens, Chichester
	Under	Under	Under	Under	Average; good	.....	Average; very good	Average; very good	Average	W. Brunsden, Brambletye Gardens, East Grinstead
	Under; bad	Under; bad	Under; bad	Average; good	Under; bad	.....	Average; good	Over; very good	Under; bad	G. Grigg, Ashburnham Place Gardens, Battle
	Under; good	Under; bad	Under; bad	Average; good	Under; bad	.....	Average; good	Average; very good	Under; good	Charles Jones, Ofe Hall Gardens, Burgess Hill
	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; good	Average; good	Under	H. C. Prinsep, Buxted Park Gardens, Uckfield
WILTSHIRE	Under; bad	Average; bad	Under; bad	Average; good	Average; good	.....	Average; good	Over; good	Bad	C. Allen, Worth Park Gardens, Crawley
	Under; bad	Under; bad	Under; bad	Average; good	Average; good	Under; good	Average; good	Average; good	Under	T. Challis, Wilton House Gardens, near Salisbury
	Under	Under	Under	Under	Under	Under	Under; good	Average; good	.....	George Brown, Bowood Gardens, Calne
	Under; bad	Under; bad	Under	Under	Under	Under	Average	Average; good	Under	A. Rushent, Tottenham Gardens, Savernake, near Marlborough
	Under; bad	Under; bad	Under	Morellos average; good	Average	Under; good	Over; good	Over; very good	Average	S. W. Tucker, Longford Castle Gardens, Salisbury
7, England, N.W.										
CUMBERLAND	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; good	Over; very good	.....	A. L. Statham, Eden Hall Gardens, Langwathby
LANCASHIRE	Under	Under	Under	Under	Under	.....	Under	Average	.....	W. Ashton, Wroughton Hall Gardens, Wigan
	Under	Under	Under	Under	.....	.....	Under	Under	.....	E. F. Hazelton, Knowsley Gardens, Prescot

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEC- TARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
7, England, N.W.										
LANCASHIRE	Under	Under	Under	Under	.....	.....	Under	Under	.....	S. McMaster, Gawthorpe Hall Gardens, Burnley
	Under; bad	Under; bad	Under; bad	Under; good	Under; good	.....	Under; good	Average; very good	.....	Wm. P. Roberts, Cuerden Hall Gardens, Preston
WESTMORELAND	Under; bad	Under; bad	Under; bad	Under; good	Under; good	Under	Under; good	Under; good	.....	William Gibson, Levens Hall Gardens, Milnthorpe
	Under	Under	Under	Average; good	.....	Under; bad	Under	Average; good	.....	F. Clarke, Lowther Castle Gardens
	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	.....	Under; bad	Under; bad	Under; bad	W. A. Miller, Underley Hall Gardens, Kirkby Lonsdale
8, England, S.W.										
CORNWALL	Under	Under	Under	Average; good	Under	.....	Under	Average; good	.....	W. H. Bennett, Menabilly Gardens, Par Station
	Under	Under	Under	Under	Under	.....	Under	Average; bad	.....	A. Mitchell, Tehidy Park Gardens, Camborne
	Under; good	Under; good	Under; good	Under; good	Under; good	.....	Average; good	Average; good	Under; good	Alfred Read, Port Eliot Gardens, St. Germans
	Under; bad	Under; bad	Under; bad	Average; very good	Under	Under	Average; good	Over; very good	Average	A. C. Bartlett, Pencarrow Gardens, Washaway, R.S.O.
	Under; good	Under; good	Under	Average	Under	Under	Over; very good	Over; very good	Average	J. C. Bennett, Boconnoc Gardens, Lostwithiel
DEVONSHIRE	Under; bad	Under; bad	Under; bad	Under; bad	Under; very bad	Under; bad	Average; good	Average; good	Under; good	Andrew Hope, 38, Prospect Park, Exeter
	Under	.....	.....	Under	Under	.....	Average	Very good	Under	Geo. Baker, Membrand Gardens, Newton Ferrers
	Under; good	Under; good	Under; good	Under; bad	Average; very good	Under; good	Average; good	Average; very good	Average; good	James Mayne, Bicton Gardens, Budleigh, Salterton
	Under	Under	Under	Under	Under	Under	Average	Average	.....	G. Foster, Glendaragh Gardens, Teignmouth
	Under; bad	.....	.....	Under; bad	Over; good	.....	Average; very good	Over; very good	Under	C. W. Bloye, Pinhay Gardens, Lyme Regis
	Under	Under	Under; poor	Under; bad	Under	Under	Under	Average	Average	T. H. Slade, Poltimore Gardens, Exeter
GLOUCESTERSHIRE	Under; good	.....	.....	Under; bad	Under; bad	Under; bad	Under; good	Average; good	Under	Geo. W. Marsh, St. George's Nursery, Cheltenham
	Under	Under	Under	Under	Under	Under	Under	Average	Average	W. Keen, Bowden Hall Gardens
	Under	Under	Under	Under	.....	Under; good	Average; good	Average; good	Average; good	John Banting, Tortworth Gardens, Fairfield
	Under	.....	.....	Under	Under	Under	Average; good	Average; good	Under	H. Berry, Highnam Court Gardens, Gloucester
HEREFORDSHIRE	Under	Under	.....	Under	.....	.....	Over; good	Over; good	Average	Geo. Milne, Tittley Court Gardens, Tittley, R.S.O.
	Under	Under	Under	Under	Under	Under	Average	Average	Under	John Watkins, Pomona Farm, Withington
	Under	Under	Under; good	Under	.....	.....	Under	Over	Average	Thomas Spencer, Goodrich Court Gardens, Ross
MONMOUTHSHIRE	Under	Under	Under	Under	Under	.....	Average	Average	Under	John Lockyer, Pontypool Park Gardens, Pontypool
	Under; bad	Under; good	Under	Under	Average; very good	Under; good	Average; good	Average; good	Average	W. F. Woods, Llanfrehaf Grange Gardens, Caerleon
	Under; good	Under; good	Under	Under	Under	.....	Average; good	Average; good	Under	T. Coomber, The Hendre Gardens, Monmouth
	Under	Under	Under; bad	Under	Under	Under	Under	Under	Under	Henry Townsend, Maindiff Court Gdns., Abergavenny
SOMERSETSHIRE	Under	Under; very bad	Under	Under	Under; very bad	Under	Under	Average	Under	Samuel Kidley, Nynehead Court Gardens, Wellington
	Under	Under	Under	Average	Under	Under	Average	Average; good	Under	W. Hallett, Cossington Gardens, Bridgewater
	Under	.....	.....	Average; good	.....	Under	Under; good	Over; very good	.....	John Crook, Forde Abbey Gardens, Chard
WORCESTERSHIRE	Under	Under	Under	Under	Under	Under	Average; good	Average; good	Under	A. Young, Witley Court Gardens, Stourport
	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	Under; good	Under; good	Average; bad	Average; good	William Crump, Madresfield Court Gardens, Malvern
	Under; good	Under; good	Under; bad	Under; bad	Under; good	Under; bad	Under; good	Average; very good	Under; bad	Walter Harvey, Overbury Court Gardens, near Tewkesbury
	Under; good	Under	Bad	Bad	Bad	Under; good	Under; good	Under; good	Under	F. Jordan, Impney Gardens, Droitwich
WALES—										
ANGLESEA	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	.....	Under; good	Under; bad	.....	Robert Parry, Llysdules Gardens, Amlwch
	Under	Under	Under	Average	Under	Under	Average	Over	.....	Penrhos Gardens, Holyhead
BRECONSHIRE	Under; bad	Under; bad	Under; bad	Under; bad	Average; good	.....	Under; bad	Average; bad	Under	C. Hibbert, Craig-y-nos Castle Gardens, Swansea Valley
	Under; bad	Under; bad	Under; bad	Under; bad	Under; very good	Under; very good	Under; very good	Average; good	.....	Albert Ballard, Glanus Park Gardens, Crickhowell
CARDIGANSHIRE	Under; bad	Under; bad	Under; bad	Under; good	.....	.....	Average; good	Over; very good	Under; bad	George Wright, Bronwydd Gardens, Maesllyn, Llandysil
CARMARTHENSHIRE	Under; bad	Under; good	Under; good	Average; good	Under; bad	Under; bad	Average; good	Average; good	Under	William Parker, Neuaddfawr Gardens, Llandovery
CARNARVONSHIRE	Under	Under	Under	Under	Under	.....	Average	Average	.....	H. Weaver, Vaynol Park Gardens, Bangor
	Under	Under	Under	Under	.....	.....	Average; good	Over; very good	Average	T. Evans, Gwydyr Castle Gardens, Llanrwst
	Under	Under	Under	Under	.....	Under	Over; very good	Under	.....	W. Speed, Penrhyn Castle Gardens, Bangor
DENBIGHSHIRE	Under; bad	Under; bad	Under; bad	Under; bad	Under	Average	Average	Average	Under; bad	Walter Weir, Rhosnessney Gardens, Wrexham
FLINTSHIRE	Under	Bad	Bad	Bad	Under	Under	Under; bad	Average	Under	John Forsyth, Hawarden Castle Gardens, Chester
GLAMORGANSHIRE	Under	Under	Under	Average	Average	Under	Over	Over	Under	R. Milner, Margam Park Gardens, Port Talbot
MERIONETHSHIRE	Under	Under	Under	Under	.....	Under	Under; good	Under; small	.....	John S. Higgins, Rhûg Gardens, Corwen
PEMBROKESHIRE	Under	Under	Under	Under	Average	.....	Average	Under; very good	Average	W. B. Fisher, Stackpole Court Gardens, Pembroke
	Under; bad	Under; bad	Under; bad	Under; bad	Under; bad	.....	Under	Average	Under	George Griffin, Slebeck Park Gardens, Haverfordwest
IRELAND—										
9, Ireland, N.										
ARMAGH	Under; good	Under; bad	Under; very good	Average; good	.....	.....	Average; good	Over; very good	.....	W. R. Spencer, Manor Gardens, Loughgall
LONDONDERRY	Average	Under	Under	Under	.....	.....	Average	Over	.....	James Lindsay, Ballykelly Gardens
GALWAY	Under; bad	Under; bad	Under; good	Over; good	.....	.....	Over; good	Over; very good	Under	Thomas Dunne, Lough Cutra Castle Gardens, Gort

CONDITION OF THE FRUIT CROPS—(continued).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NEC- TARINES.	APRICOTS.	SMALL FRUITS.	STRAW- BERRIES.	NUTS.	NAME AND ADDRESS.
9, Ireland, N.										
GALWAY	Under; good	Under; good	Under; bad	Average; good	.....	.....	Very good	Very good	.....	And. Porter, Woodlawn Gardens,
LONGFORD	Very bad	Bad	Bad	Average	.....	.....	Very good	Very good	Average	John Rafferty, Castle Forbes Gardens, Newtown Forbes
MAYO	Average	Under	Under	Under	Average; good	.....	Over; very good	Over; very good	Average	Patrick Connolly, Crammore House Gardens, Ballinrobe
MEATH	Under	Under	Under	Under	Under	.....	Average	Under	Under	James Moore, Summerhill House Gardens, Enfield
TYRONE	Under; good	Under; bad	Under	Under	.....	.....	Average	Over; very good	.....	Fred. W. Walker, Sion House Gardens, Sion Mills
10, Ireland, S.										
CLARE	Bad	Bad	Bad	Bad	.....	.....	Very good	Average	Under	Wm. Clarke, Castle Crine Gardens, Six-Mile Bridge
CORK	Under; good	Under; good	Under; good	Under; good	Under; bad	Under; good	Over; very good	Over; very good	.....	C. Price, Mitchelstown Castle Gardens, Mitchelstown
KILKENNY	Average; good	Under; bad	Under; bad	Average; good	.....	Under; bad	Average; good	Average; very good	Under; bad	Henry Carleton, Kilkenny Castle Gardens
LIMERICK	Under	Under	Under	Average	Under	Under	Average	Under	.....	W. Bowles, Adare Manor Gardens, Adare
ROSCOMMON	Average	Under	Under	Average; good	Average	.....	Average; good	Average; good	.....	Terence Rogers, Frenchpark House Gardens, French- park
WATERFORD	Under; bad	Under; bad	Average; good	Over; good	Over; very good	.....	Over; very good	Over; very good	.....	T. Dunn, Strancally Castle Gardens, Tallow
CHANNEL ISLANDS—										
GUERNSEY	Under; good	Under; good	Under	Average; good	Under	Under	Average; good	Average; good	.....	C. Smith & Son, Caledonia Nursery, Guernsey
JERSEY	Average; good	Under; good	Under; good	Average; good	Average; good	Average; good	Under; good	Over; very good	.....	Edwin John Ashelford, 16, Dorset Street, St. Helier, Jersey
ISLE OF MAN	Under; good	Under; good	Under; good	Under; good	Under; good	Under; good	Average; good	Average; good	.....	H. Becker, Caserean Nur- series, St. Saviours
	Under	Under; bad	Under	Under	.....	.....	Average; good	Average; good	.....	James Murphy, Cronkbourne Gardens, Douglas James Inglis, The Nunnery Gardens, Douglas

SUMMARY.

Records.	Apples.	Pears.	Plums.	Cherries.	Peaches.	Apricots.	Small Fruits.	Straw- berries.	Nuts.
SCOTLAND.									
Number of Records	(55)	(54)	(51)	(56)	(28)	(25)	(56)	(56)	(9)
Average	7	6	16	28	0	4	33	39	1
Over	2	0	1	3	0	0	3	9	0
Under	46	48	34	27	28	21	20	8	8
ENGLAND.									
Number of Records	(178)	(178)	(177)	(159)	(131)	(116)	(173)	(172)	(126)
Average	5	1	1	30	26	10	61	98	37
Over	0	0	0	0	0	2	5	51	1
Under	173	177	176	129	105	104	107	23	88
WALES.									
Number of Records	(15)	(15)	(15)	(14)	(11)	(8)	(14)	(15)	(9)
Average	0	0	0	2	3	1	7	7	2
Over	0	0	0	0	0	0	2	4	0
Under	15	15	15	12	8	7	5	4	7
IRELAND.									
Number of Records	(14)	(14)	(14)	(14)	(6)	(3)	(14)	(14)	(6)
Average	4	0	1	2	2	0	7	3	2
Over	0	0	0	2	1	0	7	9	0
Under	10	14	13	6	3	3	0	2	4
CHANNEL ISLANDS.									
Number of Records	(5)	(5)	(5)	(5)	(4)	(3)	(5)	(5)	0
Average	1	0	0	3	1	1	3	3	0
Over	0	0	0	0	0	0	0	1	0
Under	4	5	5	2	3	2	2	1	0

THE LARGEST MAP.—Growing on six acres of a gentle southern slope of Tesson Hill, at the Louisiana Purchase Exposition, St. Louis, is to be the largest geographically correct map ever constructed. The map is 480 feet long from east to west, and extends from north to south 240 feet. The map is to be the main feature of the large open-air exhibit by the Bureau of Plant Industry of the Department of Agriculture, and is personally superintended by D. A. BRODIE. The idea is to show the United States with growing crops planted as per the natural distribution. The several acres were fenced off early in April, and the entire tract was richly fertilised. The ground was ploughed and harrowed, the soil pulverised, and the entire tract sowed with Cow Peas. This crop not only enriches the soil but prevents the growth of weeds. When an exhibit is ready to be installed the gardeners simply pull up the Cow Peas covering the space required, for the ground then requires but little work. A belt

of blue grass lawn 20 feet wide establishes the boundary and coast lines of this gigantic map. The boundary lines between the States are marked by cinder paths 3 feet wide. That part comprising the fourteen States and territories of the Louisiana Purchase is marked by a white gravel walk. Not only will the products of each State be shown on this map by growing crops, but the section of the State on which each commodity is most grown will be shown. *The Weekly Florists' Review.*

"THE FOREST FLORA OF NEW SOUTH WALES."—The second and third parts of this important publication are before us. The trees figured are *Eucalyptus longifolia* of Link, t. 5. "Botanical names should," says Mr. MAIDEN, "be used for timber trees (and all other plants) wherever possible. Confusion in names of timbers leads to trade disputes and uncertainties, and accusations of bad faith in many ways." If it be alleged,

as it may be with truth, that botanical names are often so little fixed in their application that confusion may and does arise from the application of many different names to the same plant, it may be replied that, to a botanist with records and herbaria at his command, these diversities can be adjusted at the expense of comparison and research, whilst in the case of popular names there is no authoritative standard whatever. *Alphitonia excelsa*, t. 6, affords a good illustration of what we have just written. The Latin name is duly recorded, and the book in which it was described indicated so that there is no difficulty in finding it; but when we turn to the vernacular names, we find such names as "Red Ash" (of course it is not an Ash, and botanically quite unlike one); "Leather Jacket," "Cooper's Wood," and "Humbug," the last a not inappropriate epithet for a vernacular name. If these vernacular names are not approved of, we may, if we like, fall back on the native names, and make our choice between "Murrung," "Nono Gwyinandie," "Culgera-Culgera," "Mee-a-Mee," and "Co raminga." For our own part we do not see that either the popular or the aboriginal names, which cannot be verified, are any better than the much-abused botanical name, for which chapter and verse can be cited, whilst the plant itself may be found duly labelled in the herbarium all ready for comparative study. The other plates are devoted to *Doryphora Sassafra*s and *Alstonia constricta*, which has valuable medicinal qualities, possessing the properties of both quinine and strychnine. The third part of this publication contains illustrations and descriptions of *Cedrela australis*, *Eucalyptus resinifera*, and *Cryptocarya obovata*. Full details are given of the uses of these trees for economic purposes. The vernacular names are again singularly unfortunate, for the *Cedrela* is no Cedar, nor anything like one; the *Eucalyptus* is no Mahogany, and the *Cryptocarya* is totally different from a Beech. The *Cedrela* furnishes the most valuable timber in the colony, being used for the same purposes as Mahogany; *Eucalyptus resinifera* is also one of the most valuable hard woods of the colony. The *Cryptocarya*, though called the Beech, is really a Laurel in its affinities.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the **EDITOR**, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR AUGUST.

SATURDAY, AUG. 1	{ Société Française d'Horticulture de Londres Meeting.
MONDAY, AUG. 3	{ Bank Holiday. Sheffield Floral and Horticultural Society's Show. Headington Horticultural Society's Show.
TUESDAY, AUG. 4	{ Royal Horticultural Society's Committee Meetings. Lecture on "Landscape Gardening."
WEDNESDAY, AUG. 5	{ Mortimer Horticultural Society's Show.
SATURDAY, AUG. 8	{ Royal Botanical Society's Meeting.
MONDAY, AUG. 10	{ Royal Botanical Society's Annual Meeting.
TUESDAY, AUG. 11	—Half-Quarter Day.
WEDNESDAY, AUG. 12	{ Bishop's Stortford Horticultural Society's Show.
THURSDAY, AUG. 13	{ Taunton Dean Horticultural and Floral Society's Exhibition.
TUESDAY, AUG. 18	{ Royal Horticultural Society's Committee Meetings. Lecture on "Hollyhocks."
WEDNESDAY, AUG. 19	{ Shropshire Horticultural Society's Exhibition at Shrewsbury (2 days). Eastbourne Summer Show.
THURSDAY, AUG. 20	{ Royal Agricultural and Horticultural Society of Jersey, Exhibition (2 days).
FRIDAY, AUG. 21	{ Devon and Exeter Horticultural Society's Show. Strathearn Horticultural Show (2 days).
TUESDAY, AUG. 25	{ Royal Oxfordshire Horticultural Society's Show. Brighton and Sussex Horticultural Society's Show (2 days).
WEDNESDAY, AUG. 26	{ Royal Botanical Society's Meeting. Harpenden Horticultural Society's Show (2 days). Bath Horticultural Society's Show (2 days). Reading Horticultural Society's Show.
THURSDAY, AUG. 27	{ Sandy and District Floral and Horticultural Society's Show. Irish Gardeners' Association's Meeting.

SALES FOR THE WEEK.

FRIDAY, AUGUST 7—Orchids in Flower and Bud, Lillium Harrisii, and Kentia Belmoreana Seeds, at Messrs. Protheroe & Morris' Central Sale Rooms, 67 & 68, Cheapside, E.C. (For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —63°2'.

ACTUAL TEMPERATURES:—

LONDON.—July 29 (6 P.M.): Max. 67°; Min. 55°.

July 30 (Noon): Showery, thundery; 66°.

PROVINCES.—July 29 (6 P.M.): Max. 59°, Eastern Counties; Min. 52°, Shetland.

The Fruit Crops.

NEVER since we have made a practice of recording the condition of the fruit crops, a period of nearly forty years, have we had occasion to present so disastrous a record. From John o' Groats to the Land's End, from Galway to East Anglia, the tale is the same. With the exception of Strawberries and small fruit, the words "total failure" best express the condition of affairs. Our correspondents from all the counties of the British Isles are mostly old friends who have rendered us the same service year after year, know our requirements, and are to be thoroughly depended upon from old experience to give as accurate comparative details as circumstances permit. We refer our readers to the Summary on p. 77, which we have appended to the tables, which gives in a concise form the main results.

Taking Apples as the most important crop, and the one most generally grown, we find out of a total of 267 records for the whole of the British Isles, only two make mention of a crop above average, against 248 reported to be under average.

In Scotland there are 7 places which have furnished an average crop as against 5 in England (3 in Surrey and 2 in Kent); so that Scotland has a little, a very little, the best of it.

As to Pears, one average crop only is recorded from the English counties—viz., from Crawley, in Sussex.

A solitary average crop of Plums is noted, and that from Newark, in Nottinghamshire, as against 176 under average.

But it is useless to prolong the agony. Our Summary tells its own tale.

Nor, if we seek the causes of this wholesale deficiency, are the facts any more consolatory. From April 8 to 25 there were from 12° to 17° of frost in various places; and this long-continued frost was all but universal throughout the country, though, of course, not of equal severity in all places.

The effects of these April frosts were accentuated in many places by subsequent visitations in May and June. But whilst there is no doubt as to the main causes of the disaster, it is pointed out by some of our correspondents, notably by Mr. BUNYARD, that the sharp frosts which occurred in the previous November had their effect upon the wood of the trees imperfectly ripened by reason of the sunless autumn. Mr. BUNYARD has most fruit upon trees moved in 1901 and 1902, which consequently made but little growth, and that very "hard."

The word "under" occurred so often in our tables that we began to fear that the resources of the printing-office might be strained to produce a supply of the requisite letters, but happily that contingency did not arise. It must be remembered too that the word "under" does not fully represent the state of affairs, for in many cases entered as "under average," there was no crop at all!

Now what are we to do? Can we, in fact, do anything to obviate the effects of such a visitation? The planting of late-flowering varieties would obviously only meet the case very imperfectly, neither is shelter always obtainable. We have heard it suggested that we should put an import duty on Apples from America and Strawberries from France, but that seems to be an Hibernian method of increasing our supplies of fruit. It would deprive the public of their

fruit, and would not assist the home grower who has none to sell. All we can do is to recommend the fruit-grower not to put all his eggs into one basket, but to multiply his resources, increase his efforts, improve his system of cultivation wherever possible, and hope for the best.

The Fruit Industry for Cottagers, etc.

WE fear that it may seem something of a mockery to speak of "Packing and Selling Fruit and Vegetables" in a season like this, where over large areas of this island there is no fruit to pack. Still, the deficiency is not quite universal, and we can bear personal testimony to the fact that Strawberries, at any rate, have yielded an abundant crop, even though the earlier blooms were injured. Moreover, such seasons as the present are happily exceptional, and the lessons inculcated by Mr. LEWIS CASTLE in the little book whose title is above quoted are, perhaps, of even greater importance when supplies are scanty than they are when they are abundant, on the principle that it is wise to make the best of what we have got and make up in enhanced prices for deficiencies in quantity.

Early in the year 1902 the Worshipful Company of Fruiterers, desiring to assist small cultivators in improving their methods of dealing with garden-produce, offered a gold medal and twenty-five guineas for the best essay on "Gathering, Packing, and Profitably Disposing of Home-grown Fruit and Vegetables." The prize was gained by Mr. LEWIS CASTLE, the Superintendent of the Duke of BEDFORD's Experimental Fruit Farm at Ridgmont, and the essay itself is now published at a low price by Messrs. W. H. and L. COLLINGRIDGE, of Aldersgate Street.

The book opens with an account of the allotment system as carried out by the wise liberality of many landlords. The holders of these allotments are conveniently classified by the author as first cottage gardeners, men in regular work, who should not attempt to cultivate more land than they can do thoroughly and creditably without over-burdening themselves; second, allotment gardeners, comprising men not in regular employ elsewhere, who can therefore devote more time to their gardens, and can manage, say, an acre of good land with advantage; third, small market gardeners, a comprehensive term intended to comprise occupiers of small holdings of from 5 to 20 acres in extent. To these also the advice is given not to take more land at starting than can be well managed by the holder and his family, without any extra labour.

Cultural details are only incidentally treated in this essay, but the excellent advice is given to cultivate the crops, whatever they may be, as perfectly as possible, for while superior samples can always find a market, indifferent or low-class produce is very often either quite unsaleable or is only disposed of at a price which yields no return for the labour expended. These practical details, though only touched on incidentally, are excellent, the author constantly dealing with the requirements of the markets rather than with absolute excellence.

The question of packages for fruit and vegetables, especially those of whatever material which can be constructed by the cottager himself, is one of great importance. Among

these, special mention is made of wicker-baskets, and of the desirability of growing Osiers for their construction. The golden and the cane Osier, both varieties of *Salix viminalis*, are recommended, as well as the "Old black," a form of *S. triandra*, and a number of other kinds which we have not space to mention. Of packing material Mr. CASTLE speaks, among others, of cotton-wool; but that we consider is a substance not to be recommended for the purpose, at least, it should not be allowed to come into contact with the fruit. Good white wood-wool of Willow or Poplar is much better.

Very useful hints are given as to gathering fruits. As ordinarily practised by the cottager, this is simply fruit slaughter. Bruising not only disfigures the fruit and spoils its value for market, but it favours the growth of moulds and ensures the speedy decay of the fruit.

The selection and grading of fruits are matters about which our average home growers are still woefully behind their continental and American competitors, as we have ample opportunities of seeing. "There are many obstacles," writes Mr. CASTLE, "in the road to business success in fruit and vegetable growing, that cannot readily be removed, but here is one absolutely in the power of the producer to deal with, indeed, it is chiefly of his own production." Genius is sometimes defined as the capacity for taking pains. It that be so, it is only a small proportion of those who send to market who can claim to be geniuses. Many of the complaints that reach us as to the alleged iniquities of middlemen, when examined into, resolve themselves, in the first instance, to a want of attention to details and a happy-go-lucky instead of systematic methods of procedure. The various methods of selling the produce are treated in a separate chapter, and the grower would do well not only to study that, but to make himself acquainted with the Dutch co-operative system, as described in our columns, December 13, 1902, p. 438, and in a "leaflet" issued by the Board of Agriculture.

We cannot devote more space to Mr. CASTLE'S essay, but it is so full of useful information and common sense, the outcome of experience and observation, that we are not surprised that it secured the approbation of the judges. It has a good index and numerous illustrations; but unfortunately no scale of magnitude is given, so that some of the cuts may prove misleading. We trust it may have a wide circulation among the classes for whom it was written.

NARCISSUS MRS. GEO. BARR (Supplementary Illustration).—The new variety figured in our supplement this week was shown by Messrs. BARR & SONS at the Drill Hall on Tuesday, April 21 of the present year, receiving an Award of Merit. It is of the Ajax section, flowers pure white, of fine form and substance, and slightly drooping. This fine flower is not quite so large as the grand Peter Barr. The plant was shown also at the Midland Daffodil Society's show, April 16, 1903. Our figure was prepared from a photograph taken by Mr. A. R. GOODWIN, "The Elms," Kidderminster, and may be of interest now that the planting season is near at hand.

ROYAL HORTICULTURAL SOCIETY.—In order to celebrate the jubilee of the establishment of a business in London (Mr. JAMES VEITCH, junior,

having come to Chelsea in 1853), Messrs. JAMES VEITCH & SONS, Ltd., have presented to the Royal Horticultural Society five Silver-gilt Cups of the value of 50 guineas each. This liberal offer has been accepted by the Council, and the following conditions drawn up:—The Cup will be known as "the Veitchian Cup," and one will be awarded once a year to the best individual exhibit, in the opinion of special judges, at the Temple Shows of 1904, 1905, 1906, 1907, and 1908, or at any other leading show held under the direction of the Society that the Council may determine. The successful exhibit may be either a single plant or a group, a novelty or an example of culture. The Cup will become the property of the winner each year, but he will be required to make a declaration that the exhibit is his own property, and has been cultivated by him for fourteen days previous to the show. The judges are to be seven—three amateurs, two gardeners, and two nurserymen or seedsmen—to be selected by the Council. No exhibitor can win more than one Cup.

— **EXHIBITION OF EDIBLE FUNGI.**—On Tuesday, September 15, the Royal Horticultural Society will hold an Educational Exhibition of Edible Fungi in the Drill Hall of the London Scottish Volunteers, Buckingham Gate, Victoria Street, Westminster; and a lecture upon them will be given by Dr. M. C. COOKE, M.A., V.M.H., &c., at 3 P.M. All interested in extending or acquiring the knowledge of the edible species are invited to send collections. Collections should (if sent) be delivered at the Drill Hall on Monday afternoon, September 14; or if brought, should arrive at or before 9 A.M. on the Tuesday, so that they may be properly grouped and arranged by the Fungus specialists. Collections should consist of any Fungi supposed to be edible. Each specimen should be wrapped separately in thin or tissue-paper, and packed so as not to get loose or shaken in transit. When the names are known by the senders they should be neatly written on card and enclosed, but if not known they will be named by the experts. The Society will pay the carriage of all collections, and will award medals according to merit. The best collection will be considered to be that which includes the largest number of edible species shown in the best condition. When the senders are doubtful as to whether any of the specimens are edible or not, the matter will be determined by the experts. Unnamed collections will also be examined, named, and sorted into edible and poisonous by the experts as far as their time will permit. All specimens will be destroyed at the close of the meeting unless removed by the senders. Intimation of an intention to exhibit should, if possible, be sent a few days before to the Secretary, Royal Horticultural Society's office, 117, Victoria Street, London, S.W.

— The next meeting of the Fruit and Vegetable and Floral Committees of the Royal Horticultural Society will be held on Tuesday, August 4, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 P.M. Special prizes will be given for Cactaceous plants. A lecture on "Landscape Gardening" will be given by Mr. H. E. MILNER, V.M.H., at 3 o'clock.

— At a General Meeting of the Society held on Tuesday, July 21, thirty-six new Fellows were elected, among them being Lady ARTHUR HILL, Lady MARGARET CECIL, Sir PHILIP MAGNUS, and the Hon. GERALD PONSONBY, making a total of 1,045 elected since January 1 last.

ABBOTSBURY.—We learn that Mr. BENBOW, of Abbotsbury Castle Gardens, has been appointed gardener to Sir THOMAS HANBURY, at La Mortola, Ventimiglia. The gardens at Abbotsbury are noted for their collections of rare and interesting plants. *Eucalyptus coccifera* and *E. globulus* have been raised from home-grown seed, the seedlings being now 10 feet high. The Olive,

Olea europæa, is established, *O. excelsa* also raised from seed. Seedling Bamboos are 2 feet in height. *Acacia dealbata*, raised eight years ago, are now trees flowering every year; the flowering branches are cut for decorative purposes as early as February. *Arundinaria Simoni*, as at many places in the country, is flowering. Mr. BENBOW has experience of the Riviera climate, as he was gardener for a time at Cannes, and also at the Château de Barla, Nice. Mr. BENBOW was also formerly at Victoria Park, London; Eastwell Park, Kent; the Royal Gardens, Kew; and Firle Park, Sussex; so that his knowledge of gardening matters is extensive and varied. We wish him every success in his new undertaking.

THE GERMAN TARIFF.—It is stated that the importation of Apples into Germany in barrels or other packages is henceforth to be forbidden. In this way Canadian, American, and Tasmanian Apples would be shut out.

GHENT.—The final act of the great Quinquennial was carried out on June 29. On that day the zealous and genial President was the recipient of an address from his colleagues, in which they testified to the warm feelings they entertained for him, and gave a tangible illustration of their regard for him by presenting him with a superb vase and a photograph showing the members of the Society assembled on the steps of the Casino. Those of our countrymen who were present at the Quinquennial will feel how thoroughly well earned was this mark of respect and affection.

AN AMERICAN EXPERIMENT STATION.—The work done at the scores of experiment stations in the United States is illustrated by what is done at Amherst, Massachusetts, under the direction of our correspondent, Prof. WAUGH. There are trained professors whose daily business is special investigation in the various departments of agriculture and horticulture. The work is done on a scale of sufficient magnitude to present the subject in all practical ways, and the products are large enough to ensure of keeping in prompt touch with the market quotations. There the cultivator finds the meat of the nut cracked for him; there he can find the best Apples, Pears, Peaches, Plums, and small fruits of all kinds. The directing professor can give lists of the most profitable varieties for the market or for family use. Is there not here a hint as to what should be done at Chiswick?

MR. WALTER OATES is leaving the service of Sir THOMAS HANBURY, at Ventimiglia, where he has been head gardener for the past four years. Mr. OATES was trained in good English and Continental gardens, and speaks German, French, and Italian. He is desirous of obtaining a situation in some English Colony, and from his age, character, and attainments, should have little difficulty in securing what he is in search of.

"BEAUTIFUL AND RARE TREES AND PLANTS."—Messrs. GEORGE NEWNES, Ltd., announce that they have in preparation for publication a work under the above title by the Earl ANNESLEY which will commend itself to every owner of a park and to every lover of a garden. There will be about seventy plates, reproductions of original photographs. We have on many occasions been privileged to lay before our readers illustrations of rare trees and shrubs from his lordship's gardens at Castletwellan, so that we can readily imagine the beauty and interest of the proposed work. The edition will be limited to 300 copies, and subscribers will be supplied in the order of application.

THE MOSQUITO PLANT.—Sir WILLIAM THISELTON-DYER sends to the *Times* a long letter from Dr. PROUT, the Principal Medical Officer, Sierra Leone, detailing the numerous experiments

made by him and Dr. Hood to put to the test the alleged powers of the mosquito plant, *Ocimum viride*.

The conclusions may be briefly summarised as follows:—

“1. Growing plants have little or no effect in driving away mosquitos, and are not to be relied on as a substitute for the mosquito net.

2. Fresh basil leaves have no prejudicial effect on mosquitos when placed in close contact with them.

3. The fumes of burnt basil leaves have a stupefying and eventually a destructive effect on mosquitos; but to obtain this action a degree of saturation of the air is necessary, which renders it impossible for the individual to remain in the room. It is probable, however, that cones made of powdered basil would, when burnt, have the effect of driving mosquitos away, and to this extent might be found useful.”

The fumes of insect powder (*Pyrethrum*), and of nicotin “XL-All,” are efficacious in making the rooms in which they are burnt too uncomfortable for gnats and flies; but the discomfort is equally great to human beings, and by the time the rooms were habitable the insects or their relatives might return, unless mosquito-nets were used over the verandahs, &c.

PURPLE-LEAVED TOMATOS.—Some time since we received leaves of Tomatos in which the substance of the leaf was coloured a rich bluish-purple. The colour was confined to the cellular tissue, leaving the veins greenish-yellow. The leaf-stalks were also devoid of colour. It was clear, then, that the colour was not due to absorption of an aniline dye. Microscopic examination showed that the coloration was not due to the action of iodine on starch. Mr. L. A. BOODLE has now kindly examined the leaves for us, and finds that the blue colour becomes reddish-purple when soaked in dilute acetic acid, but the original colour is restored on the addition of ammonia. It is probable, therefore, that the coloration is due to the formation of anthocyanin, which occurs so frequently in variegated leaves. Be this as it may, the difficulty remains of accounting for the fact that only one or two plants out of a houseful grown under the same conditions have put on this coloration.

DAFFODILS.—The Rev. J. E. BOURNE has contributed to the series of *Hand-books of Practical Gardening* published by Mr. JOHN LANE and edited by Mr. HARRY ROBERTS, a little treatise on “The Cultivation of the Daffodil.” Mr. BOURNE adopts Mr. BAKER’s classification, which was very practical and easily grasped by the novice, but which successive hybridisers have done what they could to invalidate. A new classification, then, will soon be needed, and one founded on the relative size and form of the perianth-tube will probably be found more “natural” and scarcely less convenient than the existing one. Mr. BOURNE gives us descriptive lists and much information not before available in so convenient a form. His illustrations are defective as conveying no idea of proportionate size. The history of the Daffodil “cult” affords an excellent illustration of the way in which the increase and the diffusion of knowledge tend to the benefit of plant-lovers, of botanists, and of commercial men. What do we not owe in these particulars to PETER BARR? Largely to his energy and zeal, which have become infectious, our gardens have been enriched with unthought-of beauties—beauties within the reach of those of scanty or moderate means; botanical knowledge has been largely added to, both from a classificatory and from a physiological point of view, whilst the florists’ shops and the catalogues which reach us are sufficient to show how great has been the development of trade industry connected with the Daffodil. But it is to the cultural details that

the readers of this little volume will naturally turn with eagerness. They will not be disappointed. Mr. BOURNE lays down some excellent principles, which will apply also to most other plants. Everything, he says, should be done thoroughly, at the right time. The plant should be put into suitable surroundings. Forethought and preparation in advance are requisite, and a careful system of labelling adopted. These are excellent rules, and the author follows them up with equally sensible directions as to soil and other factors in the “environment.” Early planting is insisted on if the best results are to be secured, and a change of soil is considered highly beneficial, though the plants do not get that under natural circumstances, a fact that shows that it does not do to copy Nature too slavishly, but to adapt our procedures to differences of conditions. The gardener wants a good display every year, but the botanist knows that the Daffodils are much finer and more abundant in some years than in others, and he knows the reason why. A list of certificated varieties and a good index complete a book which in its thoughtful execution must earn for itself a high place in garden literature.

UNIVERSITY COLLEGE, READING.—New buildings will shortly be erected, for which the sum of £80,000 is required. Of this amount £30,000 has already been contributed by five donors, including £10,000 given by Mr. G. W. PALMER, M.P., and £10,000 by Lady WANTAGE. The late Lord WANTAGE was President of the College from 1896 to 1901.

SWEET CHESTNUT WOOD FOR TANNIN.—It may be news to some to learn that in Basta, Corsica, there are already three factories for the manufacture of tannin from the bark of the Sweet Chestnut—a fourth being now in process of building. It appears that the article made usually in France is much less valuable than the Corsican, which is stated to be of a better colour, and better adapted for sole leather.

MEMORIAL TO THE LATE PROFESSOR ALLEYNE NICHOLSON.—An interesting meeting was held in the Natural History Class-room, Aberdeen University, on Friday, 24th inst., for the purpose of handing over to the University authorities a beautiful bronze tablet, spontaneously subscribed for by friends, colleagues, and students of the late Dr. ALLEYNE NICHOLSON, Professor of Natural History in Aberdeen University. It is a fine work of art, and in design and execution neat and appropriate. The design was furnished by Miss WOODWARD, daughter of Dr. HENRY WOODWARD, London (late of the British Museum), and has been made with the view of emphasising, in strikingly appropriate and artistic form, the special features in which the late Dr. NICHOLSON excelled, and in which he acquired considerable fame. Thus, for instance, down the sides of the panel are seen entwined, in acanthus style, a group of grapholites, in the study of which the late professor did valuable work; and at the foot ancient fossil corals form, by repetition, a very effective ornament; while trilobites as effectively enter into the design, together with clam shells. At the top there is a topographical representation of the Crossfield Hills, in the north of England, a district Dr. NICHOLSON knew well, having been born at Penrith. A representation of the setting sun shedding its rays over the scene is suggestive of the peaceful close of the Professor’s life, with “twilight and evening star, and after that the dark.” Over this representation of the Crossfield Hills there is the appropriate motto—“*Levavi oculos meos in montes*,” of which the most familiar interpretation is, “I to the hills have lifted mine eyes.” A representation of the Professor’s head and shoulders, in profile, occupies a prominent position on the tablet. The strong

features are well delineated, and the high forehead and bushy beard give to the head a striking appearance. At the side spaces are the name and degrees:—

“HENRY ALLEYNE NICHOLSON, M.D., D.Sc., F.R.S.,” and an inscription below as follows:—

BORN AT PENRITH, SEPTEMBER, 1844.

DIED AT ABERDEEN, JANUARY, 1899.

PROFESSOR OF NATURAL HISTORY—

TORONTO, 1871; DUBHAM, 1874;

ST. ANDREWS, 1875; ABERDEEN, 1882—99.

SWINEY LECTURER, 1877—1896.

A SKILLED GEOLOGIST, AN UNTIRING INVESTIGATOR,

EMINENT AS A TEACHER, BELOVED AS A FRIEND.

The tablet, though somewhat larger, will form a companion bronze to the one erected in 1900 to the memory of the late Professor MACGILLIVRAY, whose work is also fittingly commemorated in the design. Principal MARSHALL LANG presided at the ceremony, which was largely attended.

KINGSTOWN PAVILION, DUBLIN.—In connection with a new Winter Garden and Concert Hall lately opened, Messrs. SHEPPARD, of Rathgar, have laid out a terrace-garden, which forms a most attractive feature. The entrance to the gardens is at the corner opposite the railway station, and from this a broad drive 30 feet wide has been made to the Pavilion, and immediately around the Pavilion, a promenade over 20 feet wide has been constructed. From this promenade two flights of brickwork steps have been made, one flight with a very easy incline, the other rather steeper. These steps lead to another broad promenade, 4 feet higher than the Pavilion. In the terrace slope, between these spaces, a portion is planted with creeping plants. From this promenade broad walks lead to the different portions of the grounds. A dripping pool has been formed by using stones from Rathgar Quarries, built in strata, so as to imitate the natural rock, and over a portion of these water falls into a pool beneath. The whole has a very natural appearance. In and around the rocks of the pool, large pockets and borders have been made and appropriately planted. All the walks and paths are made with easy gradients, and are well drained. Borders have been formed all round the boundaries, and planted with trees and shrubs on the massing system. All the ground between the walks and paths have been laid out in an undulating manner, and clumps of trees formed, so that in the course of two or three years they will give complete seclusion and privacy. All the works on Victoria Beach were designed and laid-out by the Messrs. SHEPPARD, and also the borders adjacent to and the trees on the Queen’s Road were all completed under their supervision. Mr. SHEPPARD, senior, has devoted the greater part of his life to landscape gardening, and there is hardly a county in Ireland in which he has not carried out works. In the present work he has been ably assisted by his son. The Pavilion was opened by the Countess of LONGFORD, who planted a Holly as a memorial of the occasion.

THE NATIONAL ROSE SHOW.—There is a strong feeling in some quarters that the Metropolitan Show, is, on the average, fixed too early in the year. The consequence of this is that the Northern and Midland growers have not a fair chance. At the Metropolitan exhibition is held the friendly contest for the championship of the year. When this is held, Roses should be at their best. Can it be maintained that Roses are at the best between July 1 and 4? Yet it is on these dates that the Metropolitan show has been held six times during the last seven years, and

only twice, it is asserted, has the show been a good one, whilst the Northern show, which is generally held about July 15—19, has been invariably good. There is a good deal to be said on both sides, and we trust our rosarian friends will favour their colleagues with their opinions on the subject in order that the members may have an opportunity of discussing it prior to the annual meeting.

IRELAND.

A GARDEN IN WICKLOW, MOUNT USHER.

THE county of Wicklow is so far like the county of Kent in England as to be popularly known as the "Garden of Ireland." There are few, if any, Hops grown there except for ornament, but of "Cherries and fair women" there is no lack, as the quaint old-world chroniclers used to say. It is a genial land of dell and glade, of rich pastures and fertile arable, of forest, bog, and woodlands. It contains beautiful glens and mountains, such as Djouce, the loftiest (2,384 ft.), and the great Sugar-Loaf (1,651 ft.), which latter is by far the most picturesque and popular of all the peaks of Wicklow. This mountain is well wooded at its base, clothed with two species of Gorse and Furze, and three species of Heather, beloved of the bees; and so is very lovely as seen in either the spring or in the autumn months of the year. The upper portion has been denuded, and its top is composed of loose débris, which, lying at about the angle of repose, gives to it at times, when cloud-capped, a remarkable likeness to the slopes of the great sacred mountain, Fusi-yan, of Japan, a similarity that is also intensified when its summit is snow-capped in the winter season. Wicklow is remarkable for its luxuriant wild Gean or Cherry-trees, snow-white in spring, and crimson and gold in autumn, as the leaves change colour before their fall. At Killincarrig, near Greystones, just across the golf-ground, is one of the finest orchards of cultivated Cherries in Ireland, and to walk under its flowery branches in spring, just as the tender green tassels are on the Larch, and to get glimpses here and there of the great blue cone against scurrying white clouds, is a delightful sensation, not alone to author, poet, and painter, but to "the man in the street" as well. Probably, however, the latter may appreciate the orchard at Killincarrig when Strawberries ripen, or when the Cherries are ripe later on in the garden year.

Mount Usher is situated in the happy valley of the Vartry river, which supplies the city of Dublin with water, and enlivens and beautifies every inch of the country it passes through. It is two miles from the village of Ashford (another reminder of fair Kent), and is reached by rail from Harcourt Street station, passing through Bray, and near to Wicklow, before one alights at the nearest station, which is Rathnew. The whole journey is a glorious panorama of exquisite scenery, the sea on one hand, and the rich alluvial plains and marshy land on the other, backed by rising woodlands and blue-topped mountains and hills. Some miles past Greystones and Kilcool stretch the shingly sand and reedy lagoons, on what is called the "murrough" of Wicklow, rich in winter with sea-birds and other wild fowl, and in summer rich in wild flowers and grassy herbage. It is a beautiful route to a garden that has become a promised land, an Eden of the West, or say a Mecca to which flock garden-loving pilgrims of high and low degree. It is not a public or show garden, and should not be entered in an uncere- monious way or manner. It is really and truly sacred ground, rich in memories of many and diverse kinds. Old people have lived there, and died there also. Young folk have played on or beside the sparkling river as it dances or tumbles from rock to rock, or falls over the little weirs—fair children, now happy mothers, or lying at

rest beneath the flowery sod of other lands. Originally there was a stately old house called Mount Usher, in what is now the Rossannagh demesne; the old site of the garden is discernible, and on the grassy plat beside the river below a fine avenue of standard or clear-trunked Yew-trees still remain. Rossannagh House itself, the Wicklow seat of the Tighe family, is close by, and it was here that Mrs. Mary Tighe (born, 1773—died, 1810) wrote the once popular poem called "Psyche," the subject of which was

The garden at Mount Usher has been pictured and described many times, and still the most expert of horticulturists who are privileged to go there leave it with regret and with sensations resembling those of the rustic fiddler who by chance heard the playing of Paganini; or those of the Queen of Sheba when she said farewell to Solomon in all his glory.

Originally the cottage (some portions of which still remain) was a mill and kiln, and less than twenty years ago I saw the ruined old mill-wheel



FIG. 30.—RIVERSIDE PATH IN THE GARDENS AT MOUNT USHER, CO. WICKLOW.

taken from the well-known story of Apuleius. Near the brick mansion is a fine old Yew-tree with inarched or anastomosing branches, and in the adjacent grass field are fine Scots Firs and a Sweet or Spanish Chestnut, having an enormous trunk, which is said to be the largest specimen in Ireland. On a steep slope, quite close to the entrance gate to the Mount Usher of to-day, stands a noble-trunked Scots Fir, that would be difficult to match elsewhere—though Wicklow generally has long been celebrated for its fine trees.

in position, and its axle and mill-stones are probably there still under the refectories or guest-chamber overhead. This accounts for the little mill-pool near the door, and for the little streams or races that rush and sparkle and tumble through the rocky banks, the hardy Fern-glade, or that flow beneath the grey and mossy stones of the flower-laden boundary walls. As we have before indicated, the Vartry river itself (fig. 30), as of old, flows through the midst of the garden. It is next to impossible to analyse and describe the peace and quiet and the manifold

variety and luxuriance of the place, and there are but few other places in Ireland where so great a variety of vegetation as is grown here reaches to such a high and healthy standard of perfection. The place is the reverse of pretentious, it is not very large in area, and it has for the past thirty years or so grown rather than "laid out" or made. Perhaps this is one of its greatest charms. Thousands of plants have been experimented upon and lovingly watched and admired, or studied, moved, and nourished until the right soils, places, and conditions of aspect, light, shade, and moisture have eventually been found. When we speak of "the garden at Mount Usher," some qualification is necessary, for it rather consists of several gardens, made and furnished or arranged at different times. There is the garden and the pretty cottage on what is almost an island, bounded by races to which the river-side walk here illustrated forms a striking and ever-varying base. *F. W. Burbidge.*

(To be continued.)

HOME CORRESPONDENCE.

AN ANCIENT ROSE-TREE.—In a forecourt garden of a small villa residence at Ealing there can be seen a tree of Tea-rose *Devoniensis* on its own roots, which to the knowledge of the resident is over sixty years old, and which early in July in this year was laden with blossoms, and some of them of excellent quality. *Devoniensis* is, with the exception of Adam, which preceded it by five years, the oldest of the Tea-scented Roses, having been sent out in 1838; so this particular tree at Ealing must have been among the earliest planted. *Devoniensis* was discovered growing in a garden in Devonshire, and may therefore have been a self-sown seedling. It was distributed by Messrs. Lucombe, Pince & Co., of Exeter, in 1838. *R. D.*

POA ANNUA.—I am surprised that Mr. McDonald should have replied to my innocent and complimentary note on p. 43 in such a spirit. To put the matter clearly, his first letter (p. 26) was misleading, and a reflection upon those seedsmen who do supply this grass true to name. Perhaps he wrote hurriedly; in any case there is no doubt both results were unintentional. The editorial paragraph on p. 41 has apparently also been overlooked. The right to use what name he chooses for *Poa pratensis* was not questioned, but I asked why "Kentucky Blue-grass" was selected in preference to the usual English name for a common grass. This has not been answered; and the reference to Wellington and Dumelow's Seedling Apple is not a case in point, as both names have originated in this country and are in frequent use. Your correspondent is mistaken in supposing I wish to act as his tutor—nothing is further from my thoughts; and I had no interests to serve except to assure those who might be concerned that *Poa annua* can be obtained true from some sources if desired. Had he confined himself to his concluding remark on p. 42, to the effect that "grass seeds are being sold as *Poa annua* which are not true to name or description," I should not have written my offending paragraph, for there he is undoubtedly correct; but that does not go nearly so far as his first statement. Should Mr. McDonald be in my district at any time and will favour me with a visit, I will submit to him the evidence upon which my correction was founded. *R. L. Castle.*

—For public parks, I consider this one of the most useful of our native grasses; and Mr. McDonald is quite right in saying that it is difficult to procure, and hardly obtainable as a seedsmen's commodity—a fact which for years I have been well aware of. Probably no other grass can reassert itself so quickly and satisfactorily after being subjected to the tramping incidental to a flower-show, a public fête, or the prancing of cavalry. *O. D. Webster, Regent's Park, July 28, 1903.*

HYBRID OF CAMPANULA WALDSTEINIANA.—Amongst many hybrid *Campanulas*, large and small, which are in my garden, none is more noteworthy than one which I call Stansfield, because it was sent to me three years ago from Mr. Stansfield's nursery at Southport, where it came spontaneously. One of its parents is certainly *C. Waldsteiniana*, the other I conjecture to be *C. carpatica*. It is not more than 3 inches in the length of the flower-stalk, and flowers so freely as almost to hide the leaves. Three plants which were dots when sent to me have increased to breadths a foot in diameter. The leaf and form of bell resemble those of *C. Waldsteiniana*, but are far larger and more vigorous. *C. Wolley Dod, Edge Hall, Malpas, Cheshire.*

HEAVY RAINFALL AT TORTWORTH COURT.—On the morning of July 22, 2.61 inches of rain was measured at this place; and at two places within a few hundred yards distance there were 2.52 and 2.93 inches measured. *John Banting.*

THE THUNBERGIAS.—These attractive annuals are in danger of becoming lost to gardens. It was with a feeling of delight I came across some plants in pots, suspended in the garden of a country inn; and very pretty they were, healthy and blooming freely. At present, *Thunbergias* are under a cloud of neglect, from which they will emerge some day. *R. D.*

AMELANCHIER BOTRYAPIUM (CANADENSIS) × AND A. SANGUINEA.—These beautiful flowering shrubs have been in great perfection in Lord Aldenham's garden at Elstree, and these trees were the more acceptable seeing that there was little else of the kind in flower at the time. Mr. Beckett told me that he had all the known species of *Amelanchier*. There are great numbers of good things at Aldenham Park, and a little later the gardens will be very charming with multitudes of flowering shrubs, aquatics, and some aquatics of which there are all the best and most distinct species and varieties to be found in the ornamental waters. *W. A. Cook.*

BUD VARIATION IN ANNUALS.—I am a constant reader of the *Gardeners' Chronicle*, and I was interested last week in reading the account of Sweet Peas (p. 61), viz., White Sweet Pea flowering along with plants of the variety Miss Willmott. I wish to say that I cultivate *Schizanthus* in variety for conservatory decoration, and I succeed in obtaining fine plants from seed sown in the autumn, and flowered them in 10-inch pots. About one month ago, when taking the plants out of the conservatory, the flowering period being nearly over, I noticed one spray of bloom 2 feet in height, the top half of a rosy-purple colour and the lower half of the spray of the same colour, with a small spray of white flowers in the centre of the main spray. I am unable to send the spray, the flowers having fallen. I have seen nothing like it in any other flower. *Ernest Baguley, Cam-yr-Allyn Gardens, Rossett, Wrexham.*

CONDOR RASPBERRY.—The fruiting trusses of the Raspberry Condor, a cross between Superlative and Red Antwerp, will, I hope, come to hand in good condition. The fruit ripens later than that of Superlative, the growth of the plant is robust, and it is a very heavy bearer. The recent heavy showers have spoilt some of the best trusses, and you will note that the frosts in April slightly injured the fruits at the tip of some of the trusses, as was the case with those of most of the varieties grown here. This variety continues to fruit till the middle of August. *Geo. Pyne.* [The fruit has a great resemblance to Red Antwerp in form and colour, and it has a greater degree of acidity, unless the unfavourable weather has hindered the development of sweetness. In our opinion it will make a good culinary or preserving Raspberry, and being a late and continuous bearer, it will fill up the gap now existing between the summer and the autumn-bearing varieties. *Ed.*]

SALE OF LADYBIRDS.—Some little time ago it was stated—in *The Globe*, I think—that a large number of ladybirds had been sent from England [Australia?] to the United States, for placing in

gardens there, in order to deal with insect pests. Now would it not be profitable for cottagers and others in suitable localities to make a trade of rearing ladybirds for sale to English gardeners and growers? I venture to submit that such a trade would be good for all things great and small, save only for the Aphides. *C. B. L. S.*

MELON AND CUCUMBER LEAF-SPOT.—I shall be glad if your correspondent, Mr. S. Castle, will favour the readers of the *Gardeners' Chronicle* by describing methods of cultivation of Cucumbers referred to in "Melon and Cucumber leaf-spot," July 18. I fail to see why second cropping is detrimental to the health of the plants by creating disease, when every precaution is taken with regard to cleanliness, fresh soiling, and rigid adherence to obtaining seed from non-diseased plants, and from firms where disease has no footing. It is noteworthy that many of the successful growers in Kent, whose Cucumber and Melon plants are free from disease, strictly avoid ventilation by affording a thick shading of lime and chalk-wash, and by maintaining a high temperature and genial humid conditions. During the brightest hours of the day the plants are syringed. Under these conditions the plants grow fast, the foliage is of a pleasing dark-green colour, the fruits grow long and straight, and the crops are heavy. Applications of soot-water and blood-manure twice or thrice a week bring fruits of a dark-green colour, and the plants are the picture of health. Many growers have two and even three crops in a season. Water is afforded with a hose during the warmer months, which is a great saving of labour. *C. E. B. W.*

THE CHISWICK TRIALS.—I trust you will permit me to contest the judgment you pass on the trials of vegetables, flowers, &c., at Chiswick, when you say that "commercial houses laugh at them." If that be so, how is it that high-class firms constantly send to Chiswick various products for trial, such as Peas, Potatoes, Beans, Lettuces, Cabbages, or diverse flowers, things which from year to year comprise the trials conducted at Chiswick? Not only do these firms continue to send samples of their best novelties for trial, but they all are most anxious to secure awards at the hands of the respective Committees who have to examine those trials. I can say for the Fruit and Vegetable Committee, which meets at Chiswick several times in the course of the season, that no body of men, all practical and full of the knowledge which gardeners of long experience have as to the garden-requirements of products, could give closer attention to these trials, and deal with them absolutely and solely on their merits. We hear a good deal from time to time as to the excellences of trade trials, all of which are well done, but these are conducted generally in the interests of each firm's own products. At Chiswick no such partiality is evidenced, and it is because the firms who send products there realise that any awards made are made absolutely on any product's merits only, that the trade is so anxious to secure for them the stamp of merit from the Royal Horticultural Society. It may be that although the trials, so far as they well can be, are conducted at Chiswick with all possible skill and ability, and are often regarded by the Committee as very satisfactory, are yet not all that can be desired, for the obvious reason that real trials need to be conducted in an open country, where the air is pure and where the soil is not drained of all its natural moisture, as artificial operations have drained that at Chiswick. For my part I do not care how soon Chiswick is abandoned, and I am sure that is the feeling of all those members of the Fruit Committee who go there. It is evident that no description of work which the Society may wish to embark in of a practical kind, including those scientific and experimental tests you seek for, can ever be satisfactorily conducted there. The sooner Chiswick and its wretched student system of labour is abandoned, the better, the moment an area of land, adequate in dimensions, of good quality, and well placed, is provided in the open country. We shall never again have such a chance to found one of the grandest experimental and testing gardens in the world as the now lost Limpsfield site offered. It is in vain to

sigh over a sadly lost opportunity. The misguided Fellows, however, would sink £40,000 in bricks and mortar, and when they have the new Hall they will still be dissatisfied. For £15,000 they might have had a grand garden that would have been a permanent joy. A. D.

THE ROSARY.

LAYERING ROSES.

In addition to the budding of briars, Manetti, and other Rose-stocks now in full swing, the present affords a good time for layering shoots of Roses, a simple and certain method of securing strong plants. Only dwarf plants can be made to serve this purpose, and if well-matured shoots are bent carefully down into a shallow hole made in the soil, a slit an inch long being made on the under side, the shoots secured with hooked pegs, and the soil returned to the hole and made firm, the layers will root during the autumn and spring. J. D. Godwin.

ROSE "ZEPHERINE DROUHIN."

A Dutch correspondent kindly informs us that the Rose mentioned by Mr. Leach is spelt as above, and that it is a Bourbon Rose much used in Holland as a climber, where its beautiful colour is much admired.

In case no one else sends the information, may I say that the Rose your correspondent W. C. Leach describes is probably Zéphirin Drouot, synonym Mme. Gustave Bonnet. It is a hybrid perpetual, and is catalogued by M. Robichon, of Olivet, Orleans, France, as a climbing variety, bright crimson-red. M. L. Williams.

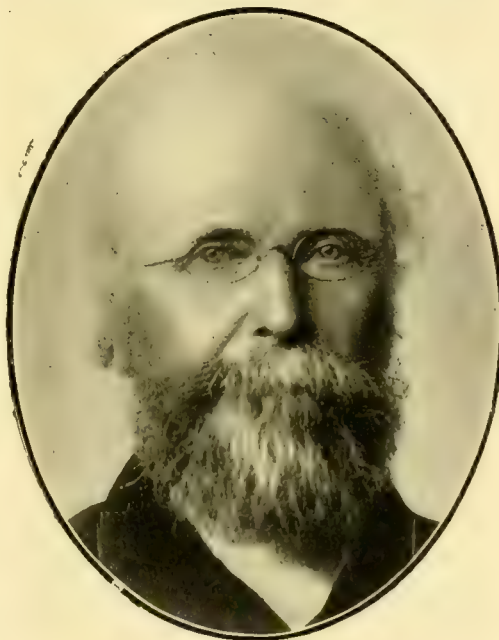
In your last issue, p. 56, Mr. W. C. Leach speaks of the thornless Rose Zéphirin Dronan. This name is not correct; that is the reason, I think, that you could not find it in any trade list of Roses. I know the Rose well, having cultivated it myself, and it is, indeed, a very suitable one for a wall or pillar. The name is differently spelt—some spelling it Zéphérine Drouhin, others Z. Doingt or Z. Drouot. If you look in the Catalogue of MM. Ketten Frères, of Luxembourg, you will find it in the Bourbon section under the former name, and that it was sent out by Bizot in 1868. This Rose is cultivated in great quantities in Orleans, France, and sells very well. E. B. [We shall be glad to know what is the correct way of spelling the name. ED.]

THE ROSE SEASON OF 1903.

The venerable Dean of Rochester has expressed the opinion that this has been the most unfavourable season for Roses that has been experienced during the last sixty years. In any case they have had difficulties to contend with which have been heroically withstood and even conquered in the case of some varieties; while others of a more delicate and susceptible nature have yielded, through adversity and lack of vitality, to premature decay. This, no doubt, was primarily owing to the lamentable sunlessness of the previous summer, and its consequent impotence to create new, vigorous shoots, or adequately to ripen the flowering wood. It is thus very much with Roses as it is with human beings; their present is moulded by the influence of their past. There must be adequate preparation for the work of the future, in Nature as in life. Like the beneficent plants that grow and blossom around us, ministering unconsciously to our instinct for beauty, we are very largely influenced by our natural environment; the health and inward happiness by which our spirits live are greatly determined by what is generally termed atmospheric conditions. Like them, we must be in perfect correspondence with our environment, or we cease to exist. Can we marvel therefore that an almost human interest is felt by the reverential lover of Nature, by the

botanist and the horticulturist, in the lives and heroic struggles with sternest difficulty of tender plants and flowers? No other art or science with which I am conversant is so creative of sympathy and gentlest patience in the heart and life of man.

During last winter Roses—in Scotland at least—were subject to a fortnight's frost of the most stern and exacting description, greatly intensified in its influence upon vegetation in every form by a desolating east wind. Tea Roses and Noisettes suffered terribly from this most unpropitious atmospheric visitation, and the spirits of ardent rosarians were suddenly reduced to zero for the time. "O what a fall was there, my countrymen!" as Mark Antony (inspired by Shakespeare) says over the dead body of Julius Caesar. I might have said as much with expressiveness at that period when I witnessed the death of my grandest Gloire. But even then I had an enduring consolation in the form of a magnificent Margaret Dickson (which has proved my finest floral possession this summer) 8 feet high, with



PETER BARR, V.M.H.

the capability of larger growth and luxuriance, since amply realised, to plant in its place.

Chiefly owing to the causes which I have already indicated, such Noisettes and Climbing Teas as William Allen Richardson, L'Idéal, Bouquet d'Or, Madame Pierre Cochet, Lamarque, Maréchal Niel, and Rêve d'Or have hardly yet recovered their normal strength, and in many instances their greatly cherished flowers have not yet appeared.

Up to the present period the finest effects created in my garden have been made by the Hybrid Perpetuals and Hybrid Teas. Clara Watson (the incomparable), Clio, Margaret Dickson (one of the finest garden Roses in existence, and in my opinion the most precious creation of the famous Newtownards rosarians), Papa Gontier (which flowers continuously and most profusely during the summer and autumn), Viscountess Folkestone, La France, Caroline Testout, Mrs. John Laing, Mrs. Sharman Crawford, Duke of Edinburgh, Enchantress, Crown Prince, and the lustrous A. K. Williams, have during this season produced the most memorable artistic effects. I am not greatly enamoured of Bessie Brown, which has been, I fear, vastly over-estimated; it has not the beauty nor does it open with the facility of Margaret Dickson. In this matter, of course, the experience of other cultivators with a more inspiring climate may be different from my

own; but I cannot say that I greatly admire the formation or arrangement of its central petals, which render it obdurate in the essential direction of floral expansion.

Of new Roses by far the loveliest and largest is Frau Karl Druschki, which I have previously characterised as a German Rose of French extraction with a Russian name. It may possess some of the attributes of its parents, Caroline Testout and Merveille de Lyon; but it most assuredly, alike in exquisite form and in texture (which resembles white satin), surpasses them both. The only varieties that approach it in beauty are Margaret Dickson and Gloire Lyonnaise. But it is a much purer white "Hybrid Perpetual" than either of these, and therefore a supremely precious acquisition. David R. Williamson, Manse of Kirkmaiden, Wigtownshire Scotland.

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THE Daffodil King by his energy and perseverance succeeded in building up the great nursery and seed business known by his name, whilst his untiring efforts in seeking out and developing the Daffodil formed really only an incident in his career—one that can be paralleled in the case of Lilies, Hellebores, and many other plants. It must not be thought that Mr. Barr's success has been commercial only; he has largely contributed to the scientific knowledge and development of the plants he has cultivated. And then, after a laborious life and at an age when most men seek repose, we find our hero showing himself a "globe-trotter" of the first water. The United States, Canada, Japan, Australia, South Africa—all these countries have been visited in turn and their features observed with keen interest, as is evidenced by the extracts from his correspondence that we have been privileged to publish. Nor has he been content to play the part of tourist, but almost everywhere he has put his great knowledge and experience at the disposal of his colonial friends, and by lectures and shrewd advice he has conferred great benefits on the horticulturists of the countries he has visited. It is evident that such a man cannot rest, and if we hear from him shortly from the cataracts of the Nile we shall not be astonished. So great a benefactor of his fellows will carry with him wherever he goes the warmest good wishes for his health and well-being.

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bleton, Budleigh Salterton, Devonshire.

Epiphyllums make a bright display in an intermediate house in October and November, if the plants are well flowered. For this purpose the growths made in early summer must be well ripened by placing the plants in a cool and airy structure, with but little shade during the next two months. *Epiphyllums* are readily injured if too much water be afforded at the root, especially in the autumn and winter. Good plants can be flowered in 6-inch pots, and they show to better advantage when they have a clear stem of 8 or 9 inches, being grafted on the *Pereskia* stock, which may be done in early spring. Cuttings also readily root if inserted in sandy soil containing mortar rubble or broken bricks, loam, and leaf-soil.

Hippeastrums (*Amaryllis*).—Seedlings raised this year should be kept growing gently; repeat them if necessary, and house them in a warm pit, placing them near to the glass. If allowed to go to rest in the first year the small bulblets deteriorate very quickly. The general stock of older bulbs will need less water at the root, until it is withheld altogether. Afford them all the ventilation and sunlight possible. We stood part of our stock out-of-doors in the third week

of] August last year for six weeks, laying them on their sides during heavy rains. This ripened the bulbs, and the majority flowered well in the spring.

Kalosanthes, now classed as *Rochas*, are showy subjects, especially the species *coccinea*, with its bright scarlet heads of bloom appearing in July and early August. This plant requires cool treatment throughout the year. Water should be afforded sparingly during the winter months. As the plants pass out of flower, any that are worth growing on for another year may be cut back fairly hard and kept rather dry at the root until growth has commenced, when the ball of roots should be reduced and the plants placed in similar sized pots, or those a trifle larger, placing them in a frame for a month to encourage growth. Cultivate three or four shoots to each plant, in preference to double that number. Cuttings may be inserted now, putting several into a 3 or a 4-inch pot, and transferring them to 6-inch pots when fit, without dividing them. They will make roots readily under a hand-light at the foot of a north wall in soil similar to that recommended for *Epiphyllums*.

Mignonette, for flowering towards Christmas and the New Year, should be sown within the coming week, using 3-inch pots for the purpose. Let the compost be loam, leaf-soil, and a little well-decayed manure, with powdered lime rubble and a sprinkle of sand. Sow the seeds thinly, eventually reserving three to five plants in each pot. Cultivate the plants near to the glass in a cool house or pit. *Machet*, *Bismarck*, and *Miles's Spiral* are suitable varieties for pot culture.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. Pigott, Bart., Wexham Park, Slough.

Coleworts.—These Cabbages being much liked during the autumn and winter, every available piece of ground should be planted with them. Before planting the plots let drills be drawn at 1 foot apart and 2 inches deep. Plant at the same distance apart in the rows, and if the weather be dry apply water copiously. *Coleworts* flourish in a rich yet firm soil.

Leeks.—Continue to blanch the stems by placing longer collars of brown-paper round them, as advised in a previous calendar. Earlier plantings which are blanched to the desired height may now be earthed-up. Successional crops should be kept well supplied with water at the root and overhead.

Mushrooms.—The litter from out-of-doors beds should be removed at three-weekly intervals, and some fresh litter added. If the beds are dry afford tepid rain-water through a fine rose-can copiously, occasionally affording farmyard liquid-manure. The Mushroom-house should now be thoroughly cleansed and the walls lime-washed. If woodlice are troublesome pour boiling water into all crevices, and then stop up with cement, &c. Stable-dung and litter may now be prepared for the making of beds, the work being carried on under cover, a shed open at the sides being a suitable place. Let the longest straw be shaken from the litter and the latter laid about 9 inches thick on the floor, and be turned every third day until the rank fumes have passed off and sufficient material is got together for constructing a bed.

Spinach.—Sow a good breadth forthwith, and again a fortnight later, and at the end of the month. Out of these several sowings some are sure to succeed. The well-being of this plant depends so greatly upon the weather that it is never safe to trust to one or even two sowings if a constant winter supply is required. The land should be warmly situated, well manured, and deeply dug, soot and wood-ashes being broadcast over it. Make the ground moderately firm by trampling and raking it before the drills are drawn. Let earlier sowings be thinned to a distance of 4 inches apart, and strew fresh soot along the spaces between the plants in the early morning, and frequently stir the surface with a Dutch hoe.

Turnips.—Frequent sowings should be made up to the end of the month of September, remembering that the later and smaller roots will withstand cold better than the earlier and larger

ones. The recent rains have favoured the growth of the July sowings. Thin young plants as soon as large enough, dress with fresh soot, and keep the hoe constantly among the plants.

Tomatos.—Plants out-of-doors, now growing freely, should be denuded of useless lateral shoots as fast as these appear, and when a sufficient number of fruits is assured on a plant, pinch out the leading shoot. Applications of manure-water and Clay's Fertiliser should be afforded alternately with clear water. If there is any appearance of the fruit splitting, remove them when about half-coloured, and ripen them in a warm and dry place.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Cypripediums.—The plants of *C. insigne*, *C. Spicerianum*, *C. Leeannum*, and *C. Arthurianum*, late autumn and winter flowerers, are growing freely, and they stand in need of abundance of moisture at the root, and humidity in the air of the house in which they are growing. Overhead syringing is especially helpful in keeping thrips in check. If a plant is pot-bound, weak liquid-manure from the cow-stalls may be applied alternately with clear water, taking care that it stands till it is clear and free from sediment, otherwise let it be strained through a piece of fine muslin before making use of it. Weak soot-water may be mixed with the liquid-manure.

Calanthes are growing freely, and should be afforded water copiously at the roots, but with discretion, or "spot" may be set up. Apply weak liquid cow-manure when the pots have become filled with roots, alternating this with plain water. It does good to sprinkle weak liquid-manure on the paths and stages of the house at closing time. When the roots of the plants show at the surface, a thin layer of small lumps of turfy loam or of fresh sphagnum may be laid over them.

Vandas and *Aërides*.—Most of these plants are making roots, and they may, if potted in porous materials, be afforded water abundantly. Avoid a hot, close state of the air in the house at all times, as being conducive to weak and flimsy growth; but let the object be the building-up of strong, leathery leaves, which should be so matured that the plants will safely withstand the inimical influences of our winters. Therefore admit air in reasonable amount at all times of the day, and afford moisture abundantly in the air, together with overhead syringing of the leaves whenever the weather permits.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Seeds that may be sown.—The seeds of *Anemone coronaria* and allied species should now be sown; and if the seeds have been saved at home, as was advised in a Calendar some weeks ago, they should be mixed, and well rubbed up in sand before being sown, or the plants will germinate in bunches. The sowing is best made in shallow drills in a cool spot. Pansies raised from seeds sown at about this date make strong plants for flowering next year; and these, too, should be sown on a cool soil. Where spring bedding is carried out *Silene pendula* will prove a useful plant for forming beds and edgings. Seeds sown forthwith, and the seedlings transplanted at a few inches apart when ready, the plants grow stocky and strong. *Saponaria calabrica* is scarcely so certain as the foregoing to come through the winter in good condition, but the plant usually succeeds if raised on rather poor soil.

Primroses.—Bunch and other *Primroses* sown in spring may be transplanted when large enough to a north border. I like to let them first get fairly big in the seed boxes, as then if removed with plenty of roots, they do not receive a check upon being transplanted. A small quantity of leaf-soil and road-grit pointed into the surface is helpful.

Bulbs and Tubers.—A grave mistake made very often by gardeners is to purchase at the same season as the bulk of the Tulips, Hyacinths, &c.,

bulbs of such species as *Chionodoxas*, *Scillas*, *Crown Imperials*, *Fritillarias* generally, winter-flowering *Crocuses*, *Colchicums*, *Snow-flakes*, *Erythroniums*, *Cyclamen*, and *Anemones*, which should be planted much earlier. This practice makes the first year's growth weak, with the result that the bulbs or tubers for the ensuing year are small, causing the gardener to imagine that the soil or the surroundings are not such as suit the plants. Nurserymen are difficult to move in the matter of what is to them out of season delivery, consequently the cultivation of such bulbs as are not grown in bulk starts faultily. I have, I think, alluded to this subject before, but it is such an important one that it will bear repetition.

Hellebores.—These plants, as is generally known to gardeners, are impatient of root disturbance, the result of which is almost certain to be the non-production of flowers the following year. Still it is necessary sometimes to lift and divide the plants; and the present affords the most suitable season for carrying out the operation. Great care should be taken to extract the roots intact, for my experience has taught me that a broken *Hellebore* root never heals or breaks again into growth. In dividing a plant, let the rhizome be cut through with a sharp knife, then with two hand-forks pull the plant apart, contriving to keep with each portion some of the strongest of the outside crowns. In replanting do not put manure near the roots, but a little decayed leaf-soil and grit will be helpful in encouraging the formation of roots.

FRUITS UNDER GLASS.

By T. H. C.

Peach and Nectarine trees.—In order that the buds on the early forced Peaches and Nectarines may develop fully, it is of importance that the foliage be kept in a clean, healthy condition until it falls naturally in the autumn. At no period should the soil become dry, and if upon examination it is found to be approaching this state a sufficient quantity of water should be applied to moisten the border to the bottom, with or without liquid-manure as the condition of the trees may indicate. Afford the trees all the air possible, and syringe them daily in fine weather. Trees from which the fruit has just been gathered should have this year's fruiting shoots, as well as all superfluous growths, removed. The trees should be afforded a thorough cleansing with water, and be afterwards treated in the manner advised for the earliest forced trees. Look over the trees bearing ripening fruits, gathering those which are ripe. When the fruits begin to ripen keep the air of the house dry and constantly in movement. Trees of late varieties, if bearing heavily, may need assistance from liquid-manure and copious supplies of water applied at the root. Trees with fruits not coloured may be freely syringed at closing time, and if fireheat be necessary the temperature of the house, together with sunheat, may touch 90°, a warmth of 65° at night being adhered to.

The Orchard-house.—Trees of the Peach, Nectarine, or Cherry, when the fruits have been gathered, may be plunged to the rims in coal-ashes in a sunny position out-of-doors, having previously been cleansed with the garden-engine. Apple, Pear, and Plum-trees grown in pots or planted out as cordons, produce fruit of fine size and quality when properly cultivated and the fruit is thinned. The trees, excepting such as are carrying ripe fruit, may be syringed daily, and afforded water and weak liquid-manure as may be required, in addition to a top dressing of turfy-loam, stable manure, and bone-meal. These top-dressings may be raised above the rims of the pots an inch or two, a cavity being formed round about the stem for holding water; or what is better, put a broad zinc band round the pot just inside the rim. Pinch the lateral shoots, and thus induce the formation of fruit buds and direct the sap to the fruits. If insects appear on the shoots or leaves, use XL-All for green or black-fly, and forcible syringings to keep red-spider in check. Afford air freely always, and in bright weather moisten the paths by day.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq.,
Dropmore, Maidenhead.

Strawberry Plantations.—The fruits being finished on early and mid-season varieties, clear away all runners not needed, and weeds, straw, and rubbish generally. Runners which may still be required to be layered should be selected as the work proceeds, and placed temporarily on the cleared spaces between the rows of plants. The plants on stiff soils will be benefited by breaking up the crust of battened soil 2 or 3 inches deep with a fork; but on light soils the Dutch-hoe is the better implement, and in this case a mulch of half-decayed manure should be afforded.

Autumn-fruiting Strawberries.—The flower-trusses now appearing may be allowed to remain on the plants if fruits are looked for during the present and the next month, and a mulch of litter placed in the spaces between the rows and close up to the crowns, as protection to the fruits. Afford water in dry weather, and if specially fine fruits be desired, let the berries be freely thinned.

Raspberries.—Remove the fish-netting from plantations now out of bearing, and the canes that have borne fruit, as well as all weak canes of this season's growth not needed for increase, &c. Doing this will admit more light and air than if all were left to grow together. On light soils, water and manure-water applied at this season will benefit the stools, care being taken, of course, not to apply the latter of too great a strength. The canes of summer-fruiting varieties should be loosely secured to the stakes or wires.

Apples.—Many of the fruits are falling from the trees owing to the presence of the codlin-moth larvæ; these fruits should be collected and burnt forthwith.

Obituary.

ALEXANDER KENNEDY.—In Mr. Alexander Kennedy, who recently died at Pilmuir, Forres, N.B., there has passed away one who was widely known throughout the north of Scotland as an able and successful horticulturist. Born near Inverness seventy-seven years ago, Mr. Kennedy chose as his profession that of gardening. Having served his apprenticeship at Cullen House, Mr. Kennedy spent several years at "show" places in the South, and then returned as Head Gardener to Sir James Grant, Monymusk House, Aberdeenshire. He served in a similar capacity at Strichen House, Durris House (then held by Mr. McTier, a well-known arboriculturist), and afterwards at Brucklay Castle, where he remained for thirty years in charge of both woods and gardens. During the latter period he identified himself closely with the horticultural societies in East Aberdeenshire, where he frequently gave his services as judge. When he retired, some four years ago, to live at Forres, he was made the recipient of a handsome testimonial in recognition of his services to horticulture. At the great shows of the Royal Horticultural Society of Aberdeen, he was a regular attender, and on many occasions acted as judge. Mr. Kennedy was an intense admirer of gardens, woods, and landscapes, and, it should be noted, of the Highlands and Highlanders. Up to the last he was tending the garden he loved so well. Heart failure brought an end as sudden as it was painless.

TRADE NOTICE.

MR. J. HUGHES, seedsman and florist, 140, High Street, Harborne, Birmingham, for a period of twenty-one years head gardener to the late A. F. Osler, Edgbaston; twenty-nine years secretary to the Birmingham Chrysanthemum exhibitions; founder and for twelve years honorary secretary of the Birmingham Gardeners' Mutual Improvement Association, intends in future to devote special attention to landscape gardening in all its branches.

SOCIETIES.**ROYAL HORTICULTURAL.
Scientific Committee.**

JULY 21.—*Present:* Dr. M. T. Masters, F.R.S., in the chair; Messrs. Odell, Hudson, Masee, Saunders, Dr. M. C. Cooke, Prof. Boulger, Rev. G. Henslow, Hon. Sec.; Canon Ellacombe; and Mr. Hunt, visitor from New Zealand.

Verbascum Leaves, diseased.—Dr. COOKE pronounced the fungus to be *Oidium Balsami*. It also attacks Turnips and Strawberries. Powdered sulphur is the only remedy.

Gooseberry Disease.—Dr. COOKE reported on samples sent from Cornwall as being *Microsphaera Grossulariae*. The application of powdered sulphur is recommended.

Mammillaria with Dodder.—Prof. BOULGER reported that the specimen was attacked by some species of *Cuscuta*. It might have been imported, as hedgerow Cacti about Monte Video are commonly covered with Dodder.

Pollination in Orchards.—Mr. CHITTENDEN, of the County Laboratories, Chelmsford, sent the results of experiments in pollinating Pears and Apples. Of eleven varieties of Pears artificially pollinated (March 3), the flowers being protected by Manilla paper bags, Conference and Durondeau set fruit abundantly; Bellissime d'Hiver and Pitmaston set one out of eighteen and twelve flowers respectively, neither having set fruit last year. Of twenty-three varieties of Apples Gladstone and Stirling Castle were self-fertile, as they also were in 1902; Lord Derby and Schoolmaster, which did not set fruit last year, gave positive results. Of the eleven tried for the first time this year, only King of the Pippins set fruit.

Carnations falling.—Mr. DOUGLAS reported on plants sent from Wetherby by Mrs. Duncombe "growing in a dry soil." "There was no disease, but the same result ensues either from too much or from too little water. It occurs when the pot-plants have been neglected, and much rain will then kill the roots. Degenerated plants may be too weak to produce flowers, and they may get into a state similar to those sent. Mortar-rubble, bone-dust, powdered oyster-shells will supply vigour to Carnations."

Papaver dubium, semi-double.—Mr. WILKS showed a small plant, about 5 feet in height, with petaloid stamens. The "doubling" was thus probably due to starvation, a not infrequent cause.

Conference in New Zealand.—Mr. HUNT gave some account of the Conference in New Zealand upon fruit-growing and horticulture; and a discussion followed upon plants of New Zealand desirable for culture in England, in which Canon Ellacombe, Dr. Masters, and others joined.

**HUNTINGDON, GODMANCHESTER,
HARTFORD, AND BRAMPTON
HORTICULTURAL.**

JULY 22.—The first show of the above was held at Hinchingsbrooke Park on the above date, and was a great success. Lord Sandwich, who was in large measure the promoter of the new Society, placed his charming grounds at the disposal of the Committee.

THE QUALITY.

With regard to the show itself there were three divisions:—Cottagers' classes, confined to residents of Huntingdon, Godmanchester, Brampton and Hartford; Amateurs' classes, open to the county; and Open classes; and the splendid number of 761 entries were made by seventy-six exhibitors, 295 Cottagers, 280 Amateurs, and 186 open classes. Most of the classes received a fair number of entries, but in each division Peas attracted the largest number, being twenty-one, twenty-four, and eight respectively in the three divisions. The quality of the exhibits altogether was very good. The groups were particularly good, and Lord Sandwich took 1st and Sir Arthur Marshall 2nd, with two extras in a really fine class. Vegetables were of extraordinary quality, and fruit also was excellent; and Mr. Nutting, one of the judges, said he could not help remarking on the absence of inferior exhibits. The cottagers' exhibits were proportionately in no less degree good.

The successes of Mr. Barson, gr. at Hinchingsbrooke Park, in the Open classes were phenomenal. Entries were made in twenty-nine classes, and he secured no fewer than twenty-five 1sts, two 2nds, and one 3rd, losing in the Sweet Pea class. The Silver Cup given by Miss Willmott, (of Warley Place, Woodford, Essex, for the exhibitor taking the most 1st prizes therefore went to him.

The complimentary exhibits were also much admired. Mr. J. Sewell, gr. to Archdeacon Vesey, showed a

specimen grown from a cutting of the Myrtle used in the wedding bouquet of Her Majesty the Queen, which excited great interest. Messrs. Wood & Ingram (Mr. J. E. Perkins) had a fine display, as had also Messrs. J. Wood Ingram & Son, Messrs. F. M. Bradley, Peterborough; Messrs. W. & J. Brown, Peterborough; and Mr. A. Gifford, Huntingdon.

OPEN.

Six stove or greenhouse plants: 1st, Lord SANDWICH; 2nd, Sir A. W. MARSHALL.

Collection of fruit: 1st, Lord SANDWICH; 2nd, H. GILLIAT. Grapes: 1st, Lord SANDWICH; 2nd, H. C. JONES. Peaches: 1st, Lord SANDWICH, 2nd, Sir A. W. MARSHALL. Nectarines: 1st, Lord DE RAMSEY; 2nd, Sir A. W. MARSHALL.

**REDHILL, REIGATE, AND DISTRICT
GARDENERS'.**

JULY 22.—On the above date, sixty members of this Society visited the gardens of Gunnersbury Park and Gunnersbury House. The party was met at the station, and conducted round Gunnersbury Park, and then partook of refreshment, considerably prepared for them by Leopold de Rothschild, Esq. Gunnersbury House was then visited.

The party then proceeded to the Royal Botanic Gardens, Kew, where the remainder of the day was spent.

BRENTWOOD HORTICULTURAL.

AN exhibition of plants and flowers has been held at Brentwood for many years, and it may be regarded as an active horticultural centre. Several tents were filled with produce, and there were several features of more than ordinary interest. One was a pretty exhibition of Roses, some really very good flowers being staged, and the competition took place under the rules of the National Rose Society. The work of judging was somewhat delayed by a storm, which broke over the grounds of Middleton Hall in which the show was held.

The Brentwood and District Silver Challenge Cup, offered for thirty-six distinct varieties of Roses, was won by Messrs. HARKNESS & Co., Hitchin, who had in good form, Alfred Colomb, Charles Lefebvre, Earl of Dufferin, Maréchal Niel, Marie Verdier, Mildred Grant, Marie Baumann, Her Majesty, Dupuy Jamain, Jean Soupert, Bessie Brown, Mrs. J. Laing, &c. Messrs. D. PRIOR & SON, Nurserymen, Colchester, the winners of the Cup last year, were 2nd, they having very good blooms of Prince Arthur, Fisher Holmes, Mrs. J. Laing, Thomas Mills, Helen Keller, Charles Darwin, Mrs. W. J. Grant, &c.; 3rd, Messrs. F. CANT & Co.

With twelve varieties, three blooms of each, Messrs. D. PRIOR & SON took the 1st prize, having in fine character Maman Cochet and its white variety, Duke of Wellington, Fisher Holmes, Mrs. E. Mawley, Tom Wood, Mrs. J. Laing, A. K. Williams, and Alfred Colomb. Messrs. F. CANT & Co. were a good 2nd; they had in excellent character White Maman Cochet, Horace Vernet, Mrs. E. Mawley, Marie Baumann, Bessie Brown, Her Majesty, and Muriel Grahame.

Tea and Noisette Roses were shown in fine character. Messrs. F. CANT & Co. were placed 1st with highly developed blooms of Maman Cochet and its white variety, Muriel Grahame, Mrs. E. Mawley, Comtesse de Nadailhac, Souvenir d'Elise, The Bride, Bridesmaid, &c. Messrs. D. PRIOR & SON were 2nd, they having in excellent character Mrs. E. Mawley, The Bride, Ethel Brownlow, Princess of Wales, Ernest Metz, &c.

AMATEURS.

In the Amateurs' division, the Rev. J. H. PEMBERTON, Havering, was 1st with twenty-four varieties; and Mr. O. G. ORPEN, Colchester, 2nd. Mr. PEMBERTON had in very good form Mrs. J. Laing, Marchioness of Dufferin, Mrs. W. J. Grant, Frau Karl Druschki, Mme. Victor Verdier, Comte Rainaud, Maman Cochet, Helen Keller, Victor Hugo, &c.

In the class for twelve blooms Mr. ORPEN came 1st, and the Rev. J. H. PEMBERTON 2nd; but Mr. PEMBERTON led again with twelve good blooms of Teas. With four distinct varieties, three blooms of each, the Rev. J. H. PEMBERTON came 1st with Her Majesty, A. K. Williams, white Maman Cochet, and Caroline Testout in fine character; Mr. O. G. ORPEN came 2nd.

With six blooms of one variety, Mr. PEMBERTON came 1st with white Maman Cochet, Mr. ORPEN coming 2nd with the same variety.

In the class for twelve varieties of Roses, in which the Brentford and District Challenge Cup for amateurs was offered in addition to the 1st prize, the Rev. J. H. PEMBERTON wrested the Cup from the previous holder, Mr. ORPEN, having fine examples of Gustave Pigeonneau, Frau Karl Druschki, Marie Baumann, Maman Cochet, white do.; Bessie Brown, Madame Hausman, &c.; Mr. ORPEN came 2nd with good blooms of much the same varieties.

A very fine feature was furnished by the two classes for garden Roses, in one of which the trade exhibited

twelve bunches, the 1st prize falling to the lot of Messrs. F. CANT & Co., who had excellent flowers.

In the way of plants there were ornamental groups, the 1st prize in the class for a large one falling to the lot of Mr. Preece, gr. to Miss WILLMOTT, Warley Place; and Mr. HOLLOWAY was 2nd. The smaller groups had many creditable points. The finest feature in the show consisted in the six very fine exotic Ferns shown by Mr. PREECE: they comprised a gold and also a silver Gymnogramma, Marattia elegans, Davallia filijensis, and Adiantum fragrantissimum. Mr. H. HOLLOWAY was 2nd; he had a splendid plant of Davallia filijensis fully 6 feet through—a superb specimen. Gloxinias, Fuchsias, Begonias, Coleus, Streptocarpus, &c., were also shown in good character. Plant culture in the form of well-developed specimens appears to be an art which is in danger of dying out, and the gardener appears to think that what he grows for ordinary house decoration is good enough for a flower show. The cure for this seeming neglect will come when the judges have the courage to withhold prizes from such exhibits on the ground that they show no special excellence of culture.

FRUIT

was somewhat sparingly produced. Mr. PREECE obtained the 1st prize for six dishes having Black Hamburgh and Muscat of Alexandria Grapes, Barrington Peaches, River's Orange Nectarine, a Melon, and dish of Figs, a good collection; Mr. W. GREEN, Harold Wood, was 2nd.

Mr. PREECE was 1st with three bunches of White Grapes, having Foster's Seedling. With the same number of bunches of black Grapes, Mr. W. GREEN took the 1st prize with Black Hamburgh.

Mr. PREECE was placed 1st with a good dish of Barrington Peaches in the class for six fruits; and in that for a dish of Nectarines, having River's Orange, Strawberries, Cherries, and Gooseberries were also shown, and by amateurs and cottagers as well.

VEGETABLES.

These productions were numerous, and the cottagers made a brave display. The prizes offered by Messrs. Sutton & Sons, Reading, for six dishes of vegetables brought some good collections.

Among miscellaneous exhibits was a large out-door group of hardy variegated shrubs &c., of excellent character, from Mr. JOHN RUSSELL, Nurseryman, Brentwood and Hampstead; Mr. LEONARD BROWN, Seven Arches, Brentwood, had fine Sweet Peas and hardy flowers; Messrs. PAUL & SON, The Old Nurseries, Cheshunt, had bunches of hardy flowers, and Mr. O. CHITTY, Market Place, Romford, Sweet Peas.

Some plants of Warley Scarlet Verbena, an excellent companion to Miss Willmott, was staged by some exhibitor.

SOUTHERN COUNTIES CARNATION.

WITH regard to this important Society, we take the following extracts from the *Hampshire Advertiser and County News*:

Exhibitors were attracted from far and near, one from as far north as Kilmarnock, in Scotland, to the sixth annual show of the Southern Counties Carnation Society, which was held on Friday, July 24, in the Pavilion of the Royal Pier, Southampton. Happily the weather was fine, and the magnificent floral exhibition was inspected with much gratification and delight by a large number of visitors, the display being one of which any Society might well be proud. Undoubtedly the show was the best ever held under the auspices of the Society, and it had considerably more than 350 entries. In addition to the competitive classes, there was a large number of extra exhibits not for competition. The largest in that way was Mr. W. Garton, of Roselands, Woolston, who not only sent a number of very fine Palms, but other plants, which were set out in an attractive manner on the central table.

On entering the pavilion the first object to attract attention was a group of plants very tastefully arranged in the entrance lobby, sent by Messrs. W. H. Rogers & Son, Ltd. Inside the pavilion we noticed a very effective little group, in which Carnations predominated, sent by the courteous honorary secretary, Mr. W. Garton, jun. Alongside was a very fine collection of Sweet Peas, sent by Mr. W. C. Breamore, of Winchester. Messrs. Blackmore & Langdon, of Bath, had a very excellent display of Begonias; while Messrs. Phillips & Taylor, of Bracknell, Berks, had a very pretty stand, on which the principal attraction consisted of trays of various coloured Water-Lilies. As usual, Messrs. Cutbush & Sons, of Highgate, had a stand of Carnation blooms, not for competition, which were very fine, as were also those shown by Mr. Douglas. Messrs. B. Ladhams, Ltd., Shirley, showed a splendid lot of cut blooms of herbaceous perennials, and Mr. E. Wills, Shirley, had an extensive collection of nursery stock not for competition. Dealing with the competitive classes, not only was the show larger than in past years, but the quality was exceedingly good.

In the smaller classes the exhibits were meritorious, perhaps the best exhibits being in the fancy and

the yellow-grounds. It was a source of satisfaction to notice in such brilliant company that a Southampton amateur, Mr. J. J. Keen, of Avenue Road, was able to figure conspicuously. A very attractive feature in the show was undoubtedly the table decorations with Sweet Peas, there being no fewer than nine tables arranged for the prizes offered by Messrs. B. Ladhams, Ltd. Miss Minnie Snelgrove gained the 1st prize with an admirable arrangement, and also took the premier award for table decoration, having Carnations as the leading feature, which was also a very good exhibit. The Sweet Pea classes were very well filled, and greatly added to the interest of the show.

Appended is the list of awards:—

Carnations—Flakes and Bizarres, twelve blooms, dissimilar.—1st, Mr. F. A. Wellesley, Woking; 2nd, Messrs. Thomson & Co., Birmingham; 3rd, Messrs. Pemberton & Son, Walsall. Six blooms, dissimilar.—1st, Mr. J. Fairlie, Acton; 2nd, Mr. J. J. Keen, Avenue Road, Southampton; 3rd, Mr. D. Walker, Kilmarnock.

White Ground Picotees, twelve blooms.—1st, Messrs. Pemberton & Son; 2nd, Messrs. Thomson & Co.; 3rd, Mr. F. A. Wellesley. Six Picotee Blooms, dissimilar.—1st, Mr. J. Fairlie; 2nd, Mr. J. J. Keen; 3rd, Mr. W. Spencer, jun., Windsor.

Yellow ground Picotees, twelve blooms, dissimilar.—1st, Mr. Martin R. Smith; 2nd, Mr. F. A. Wellesley; 3rd, Messrs. Thomson & Co. Six Blooms, dissimilar.—1st, Mr. J. J. Keen; 2nd, Mr. W. Spencer, jun.; 3rd, Mr. E. H. Buckland, Southgate House, Winchester.

Yellow Grounds and Fancy Carnations (white grounds, self flowers, and yellow-ground Picotees excluded), twelve Carnation Blooms, dissimilar.—1st, Mr. F. Wellesley; 2nd, Mr. Martin R. Smith; 3rd, Mr. E. J. Wootten. Six Carnation Blooms, dissimilar.—1st, Mr. W. H. Parton, jun., King's Heath, Birmingham; 2nd, Mr. W. Spencer, jun.; 3rd, Mr. J. Fairlie.

Sells, twelve Carnation blooms, dissimilar.—1st, Messrs. Thomson & Co.; 2nd, Mr. Martin R. Smith; 3rd, Mr. F. Wellesley. Six Carnation blooms, dissimilar.—1st, Mr. F. W. Flight; 2nd, Mr. W. H. Parton, jun.; 3rd, Mr. David Walker.

SINGLE BLOOMS.

Carnations.—Bizarres and flakes, scarlet: 1st, and 2nd, Messrs. A. Pemberton & Son, Crimston.—1st, Mr. F. Wellesley; 2nd, Mr. R. Sydenham. Pink.—1st, Messrs. Pemberton & Son; 2nd, Messrs. Thomson & Co. Purple flakes.—1st and 2nd, Mr. F. Wellesley. Scarlet flakes.—1st, Messrs. Pemberton & Son; 2nd, Mr. F. W. Flight. Rose flakes.—1st and 2nd, Messrs. Thomson & Co.

Picotees, red heavy edged.—1st, Mr. J. J. Keen; 2nd, Mr. W. Spencer; 3rd, Mr. F. Wellesley. Purple heavy edged.—1st, and 2nd, Messrs. Pemberton & Son; 3rd, Mr. D. Walker. Rose heavy edged.—1st, Mr. W. Spencer; 2nd, Mr. R. Sydenham; 3rd, Messrs. Thomson & Co. Scarlet heavy edged.—1st and 2nd, Messrs. Thomson & Co; 3rd, Messrs. Pemberton & Son. Red light edged.—1st, Mr. J. J. Keen; 2nd, Mr. S. Hayter; 3rd, Mr. R. Sydenham. Purple light edged.—1st, Mr. W. Spencer; 2nd and 3rd, Mr. F. Wellesley. Rose or Scarlet light edged.—1st, Mr. F. Wellesley; 2nd and 3rd, Mr. J. J. Keen. Yellow ground heavy edged.—1st, Mr. J. J. Keen; 2nd and 3rd, Mr. F. Wellesley. Yellow light edged.—1st, Mr. H. W. Matthias; 2nd, Mr. E. H. Buckland; 3rd and 4th, Mr. R. Smith.

Sells, any colour.—1st, Mr. E. J. Wootten; 2nd, Mr. F. Wellesley; 3rd, Mr. M. R. Smith.

Fancies (single bloom).—1st, Mr. F. Wellesley; 2nd, Mr. M. R. Smith; 3rd, Mr. W. Spencer.

Premier Carnations.—Bizarre.—Mr. F. Wellesley, with S. Hedderley. Flake.—Messrs. Pemberton and Son with Flamingo. Self.—Mr. W. Spencer, jun., with Sir Boys. Fancy.—Mr. F. A. Wellesley with Charles Martel.

Premier Picotees.—White ground.—Mr. F. A. Wellesley with Portrose. Yellow ground.—Mr. H. W. Matthias, Thames Ditton, with Pilgrim.

TABLE DECORATION.

Dinner table arrangement of Carnation or Picotee blooms, or both.—1st, Miss N. Snelgrove, 10, Oxford Road, Southampton; 2nd, Mr. R. H. Jeffery, Nursling.

SWEET PEAS.

Nine distinct varieties in bunches of thirty, open (prizes presented by Mr. R. Sydenham, Birmingham).—1st, large Silver Medal, Mr. A. Maple, Aldermore; 2nd, Silver Medal, Mr. R. H. Jeffery; 3rd, Mr. C. A. Linzee.

Decorated table centre (prizes offered by Messrs. B. Ladhams, Ltd., Shirley).—1st, Miss M. Snelgrove; 2nd, Miss S. E. Burt; 3rd, Mrs. Misselbrook, Atherley Road, North, Southampton.

Nine varieties Sweet Peas in bunches of thirty (prizes presented by Messrs. Toogood and Sons, Southampton).—1st, Toogood Championship Challenge Shield, Mr. H. H. Lees, Grosvenor Road, Portswood; 2nd, Mr. A. Maple; 3rd, Sir Samuel Montagu, Bart., South Stoneham House (gr., T. Hall).

Nine bunches Sweet Peas, distinct (prizes offered by Mr. C. W. Breamore, Winchester).—1st, Mr. F. M. Middleton, Old Alresford; 2nd, Mr. A. Maple; 3rd, Mr. R. H. Jeffery.

HOW PLANTS SCATTER THEIR SEEDS.

(Continued from p. 54.)

In the Fool's Parsley a layer of the fruit becomes spongy, in the Corn Salad two loculi of the fruit become bladders, in the Strawberry Trefoil and Lady's-Fingers the calyx becomes bladdery in character; these structures thus, in such cases, replacing the "wings."

Another kind of structural contrivance adapted to the wind's agency is that of hairs of various kinds; and these play a wide and useful rôle in effecting the distribution of seeds. They are among the most wonderful and beautiful of the devices which have been sought for by plants to attain the all-important end of seed-distribution.

First and foremost in this category stands the great family of Composites, the largest, richest, and most widely-extended order of plants on the earth, comprising 10,000 species; and doubtless one of the chief factors which have contributed to give the order its great wealth of species is its happy method of seed-distribution. In these plants the seeds are not shed separately, but each is tightly enclosed in a tiny fruit or achene, great numbers of these fruits being produced on the single head, which is commonly styled the "flower," but which in reality consists of very many flowers. The calyx, which is here inserted on the top of the little fruit or achene, is strangely modified into widely radiating, long hairs, toothed, feathery, or silky, as the case may be. The faintest breath of air, when once the tiny fruits are ripe and detached from the flower-head, is enough to waft them upwards and far away through the air, when each looks like a miniature parachute, the small, dark seed-vessel hanging from the widely expanded white pappus of hairs, which may carry it many miles from the parent-plant before it finds lodgment on the ground in a suitable place for the germination of the enclosed seed.

Such structures cross our path on every autumn ramble, blown from the Hawk-weeds, Hawk-bits, Cat's-ears, Sow Thistles, Spear and Corn Thistles, and Dandelions: in the latter plants and in the Goat's-beard they are sometimes united into downy globes. In the beautiful blue Pasque-flower (*Anemone Pulsatilla*), the Traveller's Joy, or Clematis, covering our hedges in some parts of the country during the late summer, and the Mountain Avena, the style or stigma of the fruit develops into a long feathery appendage, greatly adding to the decorative aspect of the plant, and contributing, doubtless, admirably towards scattering wide the small fruits or achenes.

Coming to the Willow herbs, those ornaments of our ditches and river-sides, we observe that their linear capsules, on splitting, liberate great numbers of minute seeds, each provided with a tuft of long, extremely delicate hairs at one end, which serve, as in the case of the fruits of the Composites, to carry it, parachute-like, a great distance through the air. Similar hairs are attached to the seeds of the Willows, but in this case at the base, instead of at the top, their brilliantly-white, woolly seeds, escaping from the two-valved capsule, are well known in the spring. In some common grasses, as the Downy Oat-grass, and the common Reed, as also in the conspicuous and peculiar Cotton-grass of our moors, the long hairs are the agents in the dispersal of their seeds or fruits.

Many plants depend upon a marvellous mechanical contrivance for the wide sowing of their seeds. The seed vessels, at first, in their unripe state, green and sappy, as they gradually dry and ripen, become dark-coloured and hard, losing all their sap, this latter naturally causing them to contract, so that an ever-increasing tension is set up, until finally, on some dry, warm day, the valves of the capsule fly asunder with an elastic spring, often accompanied by a loud report, ejecting the seeds with lightning-like rapidity

sufficient to sting the flesh of anyone standing near. Such phenomena are afforded by the common Yellow Broom, the Bitter Vetch, the Meadow Vetchling, Spurge, &c. In the Bird's-foot Trefoil and one or two others, this bursting apart of the valves is accompanied by a sudden spiral twisting of the latter, which greatly aids to send the seeds flying off. Specially interesting is the Geranium family in this respect; the long beak of the fruit, like the Crane's-bill, from which the plant derives its generic name, is not merely peculiar in appearance, but has its stereotyped use. It consists of five narrow, elongated valves or carpels, each terminating below in a capsule or achene enclosing a seed. As the valves dry more rapidly than the tissue beneath them, they become at length submitted to great tension, so that each becomes finally suddenly detached at the base, the point of least resistance, and the valves remaining still united at the tip of the long beak, each curls suddenly up and outwards like a watch-spring, and the lower swollen part or capsule, which has never been wholly closed along its ventral face, hurls the seed away to a great distance by this beautiful contrivance, the valves eventually assuming the position shown. In some species the lower swollen part of each carpel itself gets hurled away with its enclosed seed.

The splitting open of the valves of the Violet capsule does not liberate the seeds; here the two sides of each hollow carpel gradually approach each other, squeezing the smooth seeds, and by this curious method eventually flicking them all away to a considerable distance.

In one of our rarer wild plants, the Balsam or Touch-Me-Not, an inner layer of the elongated pod becomes turgid and swollen with sap, and thereby submitted to great tension. A slight touch, as from an animal brushing against it, is enough to release this tension, and cause the valves of the fruit suddenly to curl up inwards with lightning-like rapidity, and with such force as to send them, along with the seeds, flying far away.

Some members of the Labiate family, which has been mentioned earlier, have resilient peduncles which, on being pressed downwards by the wind or by any object touching them, say, a passing animal, spring elastically back into their original position. The small fruits lie loosely at the base of the calyx tube, and by this resilient motion of the stalk are ejected from their recess and sent flying through the air, a definite direction to their flight being given either by the calyx teeth at the orifice of the tube, or by a ring of outwardly-directed, convergent stiff hairs between which the seeds are obliged to pass *W. C. Worsdell, F.L.S.*

(To be continued.)

FLOODS IN THE LEA VALLEY.—Amongst the many sufferers from the recent floods, probably to none has the result been more disastrous than to Mr. F. Scholes and his brother, who occupy some 4½ acres of land near Lea Bridge Station. Owing to the proximity of the local gas-works, the flood-water was charged with ammoniacal liquor and other deleterious refuse, and the destruction of their growing stock, consisting of hardy perennials, &c., is most deplorable, the loss being accentuated by the fact that the seed-beds, from which the land would be planted, have suffered greatly. Dismayed by the trouble by which they have been overtaken, Messrs. Scholes have appealed to me to know if anything can be done to assist them, and, having seen how great is the destruction, I am sending this statement, and would deem it a favour if you would insert it in your journal. I shall be pleased to acknowledge any sums your generous readers may send to me, and will ask a few prominent growers to associate themselves with me in the disposition of the fund. *H. B. May, Dyson's Lane Nursery, Upper Edmonton, N.*



METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick. London, for the period July 19 to July 25, 1903. Height above sea-level 24 feet.

1903. JULY 19 TO JULY 25.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERATURE OF THE SOIL AT 9 A.M.			
		At 9 A.M.		DAY.		At 1-foot deep.		At 2-foot deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	At 1-foot deep.	At 2-foot deep.	At 4-foot deep.	LOWEST TEMPERATURE ON GRASS.
		deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.
SUN. 19	S.W.	62.9	59.4	67.6	55.5	0.02	63.4	61.5	58.2
MON. 20	N.E.	57.2	55.3	64.4	55.9	...	63.0	61.3	58.2
TUES. 21	S.E.	59.6	56.8	70.5	47.5	0.02	61.3	61.0	58.4
WED. 22	S.W.	64.5	61.2	73.2	49.5	0.01	63.2	61.2	58.4
THU. 23	S.W.	64.6	59.7	66.9	54.0	1.20	63.5	61.2	58.4
FRI. 24	S.W.	56.1	54.4	70.2	54.0	0.01	62.2	61.2	58.4
SAT. 25	S.W.	66.2	57.8	70.4	45.5	0.72	61.8	61.0	58.5
MEANS	...	61.6	57.8	69.0	51.7	1.98	62.6	61.2	58.3

Remarks.—A week of dull weather, with rain on six days.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending July 25, is furnished from the Meteorological Office:—

"The weather was at first fair and dry in most districts, but afterwards became wet and unsettled, with thunder-storms or thunder only in several isolated parts of the United Kingdom. Very heavy rain fell in the east and south-east of England on Thursday night, and considerable quantities in some parts of our southern counties on Saturday.

"The temperature was slightly below the mean in all districts excepting Ireland, S., and the Channel Islands. The highest readings which occurred at times varying greatly in different places ranged from 75° in several parts of the Wheat-producing districts to 69° in Ireland, N., and the Channel Islands. The lowest readings also varied not only as regards the time of their occurrence, but also with respect to the readings actually recorded, the absolute minima at some stations being as many as 10° or 12° lower than at other stations in the same district. The readings shown in the table, which were nearly all recorded at isolated places ranged from 35° in Scotland, E., and 37° in England, N.E., to 45° in England, S.W., and 52° in the Channel Islands.

"The rainfall was less than the mean in Scotland, but generally in excess of the normal over England and Ireland. In England, S.W., and the Channel Islands, the fall was more than twice, while in England E. and S. it was more than three times the average. The amount collected on Friday morning was as much as 2.3 inches at Cambridge, 2 inches at Shoburness, and 1.9 inches at Hastings. At the Royal Observatory Greenwich, 3.2 inches were measured on the same day; while at stations in and around West Ham, the amount varied between 3.2 inches and 4 inches (the records from these places were not used in the preparation of the above summary).

"The bright sunshine was in excess of the mean over Ireland, Scotland, and the north-west of England, but showed a considerable deficiency over the Eastern, Midland, and Southern counties. The percentage of the possible duration ranged from 42 in Scotland, N., and the Channel Islands, and 41 in Scotland, W., to only 26 in England, and the Midland counties."

THE WEATHER IN WEST HERTS.

THE present cold and wet period has now lasted over a fortnight, during which there has been only one seasonably warm day, and on four nights readings below 40° were registered by the exposed thermometer. The ground is now at about an average temperature at

2 feet deep, but 2° colder than is seasonable at 1 foot deep. Rain has fallen on all but two of the last twelve days, and to the aggregate depth of 3 inches, which is equivalent to a fall of fourteen gallons on each square yard of surface in my garden. Of that amount eight gallons have already come through the 2½ feet of soil in the bare soil percolation gauge, but less than half-a-gallon through the gauge on which short grass is growing. The latter quantity is, however, the more exceptional of the two, as it is very seldom that any rainwater at all finds its way through that gauge after about the middle of May. On the 23rd rain began falling at 5.30 P.M., and continued without intermission until 7 o'clock on the following morning. For the above 13½ hours the total measurement amounted to nearly an inch. This is a heavy fall for a single day—in fact, a larger quantity for 24 hours has only been recorded here in five of the last eighteen July's. During the past week the sun shone on an average for less than 4 hours a day, or for a shorter period by about 2 hours a day than usual. The winds, although as a rule of only average strength, were higher than in the previous fortnight. The amount of moisture in the air in the middle of the day was about twelve per cent. in excess of the July mean. *E. M., Berkhamsted, July 28, 1903.*

MARKETS.

COVENT GARDEN, July 30.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Alstroemeria, doz. bunches	4-0	6-0	Lily of the Valley, p. doz. bunches	6-0	12-0
Asters, bunches...	0-4	1-6	Lupins, doz. bun.	3-0	4-0
Azaleas, doz. bun.	2-0	4-0	Malva, doz. bun.	4-0	6-0
Carnations, per doz. bunches	2-0	12-0	Marguerites, yellow, doz. bunch.	1-6	2-0
— Malmesons, doz.	...	6-0	Mignonette, doz.	2-0	3-0
Coreopsis, dozen bunches	1-0	2-0	Orchids, Cattleya, dozen blooms...	6-0	12-0
Eucharis ...	2-0	3-0	Pelargoniums, zonal, dozen bunches	4-0	6-0
Ferns, Asparagus, per bunch	1-0	2-6	Phlox, per dozen bunches	4-0	6-0
— French, per doz. bunches	0-4	0-6	Poppies, Iceland, p. doz. bunches	0-6	1-0
— Maidenhair, doz. bunches	4-0	6-0	Roses, Mermet, doz.	1-6	2-0
Gardenias, p. box	1-6	3-0	— various, per bunch	0-2	1-6
Gladiolus, White, doz. bunches	2-0	6-0	— red, 12 bunches	2-0	6-0
— Blushing Bride, dozen bunches	4-0	6-0	— white, bunch	1-0	2-6
— Brechtleyensis, per bunch	1-0	2-0	— pink, bunch	0-4	1-6
— various, bunch	0-6	1-0	Smilax, doz. trails	1-6	2-6
Gypsophila, bun.	0-3	0-4	Stenactis speciosa (pale mauve), doz. bunches	2-0	3-0
Liliums, longiflorum, per bunch	1-6	2-0	Stephanotis, per dozen	1-6	2-0
— lancifolium, per bunch	1-6	2-0	Stocks, per dozen bunches	2-0	4-0
— candidum, per bunch	1-0	2-0	Sweet Peas, per dozen bunches	1-0	3-0
— rubrum, bunch	1-0	2-0	Tuberose, strong, per bunch	0-8	1-0
— auratum, bunch	1-0	2-0	— per dozen	0-2	0-3

PLANTS IN POTS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Acers, each	2-0	2-6	Fuchsias, p. doz.	3-0	6-0
Adiantums, doz.	4-0	8-0	Hellebores	4-0	6-0
Aralias, per doz.	4-0	8-0	Hydrangeas, doz.	8-0	24-0
Arbor Vitæ, per dozen	9-0	18-0	Lilium longiflorum, per doz.	6-0	12-0
Aspidistras, doz.	18-0	36-0	— lancifolium, per dozen	6-0	12-0
Aucubas, per doz.	4-0	8-0	Lycopodiums, p. dozen	3-0	4-0
Campanulas, doz.	4-0	6-0	Marguerites, doz.	3-0	12-0
Chrysanthemum coronarium (Double yellow Marguerites)	2-0	6-0	Mignonette, doz.	4-0	6-0
— Etoile d'Or, dozen	6-0	12-0	Orange-trees, each	3-0	1-4
Coleuses, per doz.	4-0	5-0	Palms, var., each	3-0	20-0
Coreopsis, dozen	4-0	6-0	Pelargoniums, — Oak-leaved, scented, doz.	3-0	4-0
Crassulas, dozen	8-0	12-0	— pink, per doz.	4-0	6-0
Crotons, per doz.	12-0	24-0	— scarlet, dozen	3-0	6-0
Dracenas, variety, dozen	12-0	48-0	Petunias, p. doz.	4-0	6-0
Euonymus, vars., per dozen	4-0	8-0	— in boxes	1-0	1-8
Ferns in var., per dozen	4-0	30-0	Pteris tremula, dz.	4-0	8-0
— Japanese bails, each	1-0	1-8	— Winstedti, doz.	4-0	8-0
Ficus elastica, doz.	9-0	24-0	Rhododendrons, per dozen	2-0	1-0
			Rose Trees, per dozen	6-0	12-0
			Verbenas, dozen	1-0	10-0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, home-grown, per half bushel	3 6	4 6	Grapes, Muscats, B., per lb.	0 10	1 6
Bananas, bunch...	9 0	12 0	Gooseberries, per sieve	4 0	4 6
— loose, dozen	1 0	1 6	Lemons, per case	8 0	12 0
Cherries, sieve	4 0	10 0	Melons, each	2 0	—
Currants, Red, per sieve	6 0	6 6	Nectarines, A., per dozen	8 0	12 0
— Black, sieve	12 0	—	— B., per doz.	3 0	6 0
Figs, per dozen	2 0	4 0	Oranges, per case	13 0	—
Grapes, Alicante, per lb.	0 10	1 6	Peaches, A., per dozen	9 0	15 0
— Gros Maroc, lb.	1 6	2 0	— B., per doz.	2 0	6 0
— Hamburg, A., per lb.	2 6	3 0	Pines, each	3 0	6 0
— B., per lb.	0 8	1 0	Plums, per sieve	9 0	12 0
Muscats, A., per lb.	3 0	4 0	Raspberries, per dozen punnets	6 0	—
			— per cwt.	40 0	42 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per dozen	1 6	—	Mushrooms, house, per lb.	0 9	1 0
Beans, dwarf, lb.	0 3	—	Onions, per case	5 0	—
— broad, bush...	1 6	2 0	— green, per dozen	1 6	2 6
— Scarlet Runners, p. sieve	4 0	5 0	Parsley, per doz.	2 0	3 0
Beetroots, per doz. bunches	2 0	3 0	— sieve	1 0	1 6
Cabbages, tally...	3 0	5 0	Peas, per bag	4 0	7 0
Carrots, new, per dozen	1 0	1 3	— per bushel	2 6	3 6
Cauliflowers, per dozen	2 6	3 0	Potatoes, per ton	90 0	130 0
Celery, per dozen bunches	10 0	12 0	— St. Malo, per cwt.	5 0	—
Cress, per dozen punnets	1 3	—	— Lincoln, &c.	4 6	6 0
Cucumbers, per dozen	1 6	3 6	Radishes, per dozen bunches	0 9	1 0
Endive, per doz.	2 0	2 6	Salad, small, punnets, per doz.	1 3	—
Garlic, per lb.	0 2	—	Spinach, per strike	2 0	—
Horseradish, foreign, p. bunch	1 6	1 9	Tomatoes, Channel Islands, per lb.	0 4	0 4 1/2
Leeks, per dozen bunches	1 6	2 0	— English, per 12 lb.	4 0	5 0
Lettuces, Cabbage, per dozen	0 9	1 0	Turnips, new, per doz. bunches	2 0	4 0
Lettuce, Cos, per score	0 6	1 6	— per bag	5 0	—
Mint, per dozen bunches	2 0	2 6	Vegetable - Marrows, per dozen	1 2	0
			Watercress, per dozen bunches	4 0	6 6

REMARKS.—Strawberries are practically over for the season, and Cherries will soon follow suit. A few Napoleons, Flemish, and Morellas of fair quality are still coming in. Some Turnips in bags and bushels are now arriving. Valencia Melons in cases of 24 or 36, fetch 12s.; Broad Windsor Beans in bags, at 3s.; English Apples are Early Juliens, Juneating, Keswick Codlin, &c.; Green Walnuts fetch 4s. to 4s. 6d. per sieve. The Oranges quoted are Murcia, 20s. in a box; some Cape Tangerines in trays, 1s. 6d. to 2s. per tray; home-grown Dwarf and Runner Beans are now coming in.

POTATOS.

Home-grown, 5s. to 6s. per cwt. John Bath, 32 & 34, Wellington Street, Covent Garden.

CORN.

AVERAGE PRICES OF BRITISH CORN (per imperial qr.), for the week ending July 25, 1903, and for the corresponding period of 1902, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1902.	1903.	Difference.
	s. d.	s. d.	s. d.
Wheat	31 5	28 7	— 2 10
Barley	25 0	20 10	— 4 2
Oats	22 8	18 5	— 4 3

FRUITS AND VEGETABLES.

GLASGOW, July 29.—The following are the averages of the prices during the past week:—Apples, Lisbon, 1s. to 12s. per case; Oranges, Naples, 8s. to 10s. per box; Melons, 7s. to 9s. per case; Lemons, 6s. to 10s. per box, and 7s. to 14s. per case; Grapes, English, 1s. 3d. to 2s. 9d. per lb.; do., Scotch, 28s. to 30s. per cwt.; Strawberries, 4d. to 7d. per lb.; Tomatoes, 5d. to 8d. do.; Mushrooms, 1s. to 1s. 6d. do.; Onions, 3s. 6d. to 5s. per case; Dutch Barrington Gooseberries, 20s. to 22s. per cwt.

LIVERPOOL, July 29.—Wholesale Vegetable Market.—Potatoes, per cwt., Early Regents, 3s. 6d. to 4s. 6d.; Kidneys, 4s. 6d. to 6s. 6d.; British Queen, 3s. 9d. to 5s.; Turnips, 8d. to 10d. per 12 bunches; Swedes, 3s. to 3s. 6d. per cwt.; Carrots, 8d. to 10d. per 12 bunches; Onions, foreign, 5s. to 6s. per cwt.; Parsley, 4d. to 6d. per dozen bunches; Lettuces, 6d. to 10d. per dozen; Cucumbers, 1s. 6d. to 3s. do.; Cauliflowers, 1s. to 2s. 3d. do.; Cabbages, 6d. to 1s. do.; Peas, 3s. 9d. to 6s. per hamper; Beans 2s. 9d. to 3s. 9d. do. St. John's—Potatoes, new, 1d. per lb.; Asparagus, 2s. to 4s. per 100; Peas, 1s. 6d. per peck; Cucumbers, 3d. to 6d. each; Apricots, 1s. to 1s. 6d. per dozen; Gooseberries, 3d. to 4d. per lb.; Currants, white, 4d. do.; do., Red, 6d.

do.; do., Black, 6d. do.; Peaches, 4d. to 6d. each; Cherries, 6d. to 8d. per lb.; Strawberries, 6d. do.; Grapes, English, 1s. 6d. to 3s. 6d. do.; Pines, foreign, 4s. 6d. to 6s. each; Mushrooms, 1s. per lb. Birkenhead:—Potatoes, 1s. 6d. per peck; do., new, 1d. per lb.; Peas, 10d. to 1s. 6d. per peck; Cucumbers, 2d. to 6d. each; Strawberries, 4d. to 8d. per lb.; Currants, Red, 6d. to 8d. do.; do., Black, 10d. to 1s. do.; do., White, 6d. to 8d. do.; Peaches, 4d. to 6d. each; Cherries, 6d. to 8d. per lb.; Apricots, 1s. to 1s. 6d. per dozen; Gooseberries, 3d. to 4d. per quart; Grapes, English, 2s. to 4s. per lb.; Tomatoes, English, 6d. to 8d. do.; Mushrooms, French, 1s. to 1s. 4d. do.; Filberts, 8d. do.

ANSWERS TO CORRESPONDENTS.

BOOKS: *Buds*. The best work we know of is *The Art of Grafting and Budding*, by Chas. Baltet. It was published by W. Robinson, The Garden Office, and doubtless is now out of print, and obtainable only at the old bookstalls.

CARNATION DISEASED: *E. Semper*. Uredo Dianthi, Carnation spot. Burn the affected leaves and spray the plants with liver of sulphur, $\frac{1}{2}$ oz. to 1 gallon of water.

CORRECTION: Mr. Francis Wellesley desires us to correct an error that has crept into our report of last Tuesday's Carnation Show. The 1st prize for twenty-four flakes and bizarres was awarded to him, and not to Mr. Thos. Lord, as stated by our reporter.

CUCUMBER PLANT DISEASED: *J. J. P., Stroud*. The soil sent is healthy and sweet, but we should be chary about using the manure mixed with it. The roots, stem, and most of the foliage were in an apparently healthy condition. Some of the leaves showed traces of Cercospora, a fungus which is spreading fast in this country, and about the life-history of which little is known. Up to the present, fungologists can only advise the destruction of the plants attacked.

GRAPES: *W. S.* The "spot" disease, often mentioned in "Answers to Correspondents." Consult recent issues of the *Gardeners' Chronicle*.

GRUBS IN ROSE-SHOOTS: *W. H. D.* The larvæ of a rather uncommon Sawfly, which when full fed are said to change to the chrysalis stage, in the cut ends of the old shoots. Your best course is to cut off all the infested shoots and burn them; the old shoots should also be carefully examined in the late autumn or winter, and the chrysalids destroyed.

HISTORY OF THE CHRYSANTHEMUM: *F. L.* The history of this plant was given in these pages by Mr. W. B. Hemsley, on p. 521, Nov. 9; p. 555, Nov. 16; p. 585, Nov. 23, and p. 652, December 7, all in 1889; also more recently by Dr. Henry. We are not acquainted with any book giving similar information to that given in these papers.

MADRESFIELD COURT GRAPE CRACKING: *H. D.* About the time of the final swelling the humidity of the air of the vinery should be lessened by affording a considerable amount of ventilation and a little fire-heat, avoiding at that time the application of water to the border, doing this at an earlier date, and affording sufficient to last for a month or two. The variety is not the best for late keeping, owing to its liability to the cracking of the berries.

MELON INJURED: *H. J. K.* The fungus present in the diseased portion of the Melon is not the cause of the decay. An entrance has been gained through a puncture or bruise of the rind caused by some other agent.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*T. W., Hexthorpe*. The Bee Orchis (*Ophrys apifera*).—*Grange*. 1, *Poa maritima*; 2, *Arrhenatherum avenaceum* (starved specimen).—*M. Buysmann's*. The *Potentilla* is probably some form of *P. recta*, but the *Potentillas* of this section are most critical, and we should like to know exactly the home of the plant before expressing an opinion. Unfortunately there is no recent monograph of the genus.—*J. R. Spiræa Douglassi*.—*W. B.* 1, *Lilium croceum* var.; 2, *Geranium pratense*; 3, *Lilium croceum*; 4, *Lilium Henryi*; 5, *Lychnis dioica*, double

flowered.—*C. V. A.* 1, *Abies Clanbrassiliana*; 2, *Cephalotaxus pedunculata fastigiata*; 3, variegated large-leaved Box; 4, variegated Minorca Box, *Buxus balearica*; 5, *Berberis Bealei*; 6, *Escallonia rubra*.—*H. W.* A remarkably fine variety of *Cattleya Mendelii* and *Dendrobium moschatum*.—*W. W. G.* 1, *Santolina incana*; 2, *Lysimachia verticillata*.—*A. C.* Both *Dendrobium formosum*, the difference in the colour of the lip is no botanical distinction.—*Claremont*. *Mormodes pardunum* unicolor, called also *Mormodes pardunum luteum*.

—*Z. Q.* A form of *Dendrobium* × *Ainsworthii* (aureum × nobile).—*P. B., Kent*. 1, *Begonia semperflorens*; 2, *B. subpeltata* var.; 3, *B. incarnata*; 4, *B. nitida alba*; 5, *B. fuchsoides*; 6, *B. argyrostigma*; 7, *Gesnera elongata* of gardens. Several of the *Begonias* have been attacked by insects, and that may have caused the injury complained of.—*L. A.* The numbers were written on thin paper, in pencil, tied tightly, with damp moss all round. Please think of our time. The *Gloxinias* have the mite; spray them with tobacco-water. Tomato-spot; see back numbers of the *Gardeners' Chronicle* almost every week; burn the plants. 1, *Sempervivum tortuosum variegatum*—the green form is illustrated in the *Botanical Magazine*, t. 296; 2, *Primula floribunda*.—*T. D. H.* *Holcus mollis*.

PEACH DECAYING: *B. G.* The stone had split, and as a consequence the fruit had also opened, admitting spores of fungi and setting up decay. See reply to a similar question in a recent issue.

PLANTAIN AND DAISY-COVERED LAWN: *Subscriber*. See reply to "Constant Reader," below.

ROSE-LEAF PERFORATED: *Constant Reader*. The work of the Leaf-cutter Bee, who uses the deleted portion of the leaves to form a lining to its tube-like nests.

ROYAL HORTICULTURAL SOCIETY—HOW TO BECOME A FELLOW: *T. Blackman and A. Constant Reader*. If you will apply to the Secretary, Rev. W. Wilks, 117, Victoria Street, Westminster, he will be happy to show you the way.

TO KILL SCALE ON ADIANTUMS AND OTHER FERNS: *Constant Reader*. Try a weak solution of soft-soap at the rate of 2 oz. to a gallon of water, in which $\frac{1}{2}$ pint of tobacco-water is put. Nothing very strong or irritant may be employed.

WASP NEST: *E. S.* Not uncommon.

WEEDY LAWN: *Constant Reader*. Spud up forthwith the roots of Plantains, Dandelions, Thistles, and apply loam and pure lawn-grass seeds in bare spaces, rolling and beating the lawn firm. Apply Watson's lawn sand, or fish manure, or nitrate of soda and super-phosphate of lime. These manures will make the grass grow, and smother the weeds in time; but if the lawn is in a very bad state, it will be better and cheaper to dig it up early in September, after dressing the lawn with rotten stable dung and woodashes, and sow it forthwith with grass seeds and small white Clover. When digging, throw out all deep-rooting weeds. The following mixture of grasses and quantities per acre will be found suitable:—*Cynosurus cristatus* (crested Dog's Tail), 50 lbs.; *Festuca ovina* (Sheep's Fescue), 25 lbs.; *Poa nemoralis* (Wood Meadow Grass), 2 lbs. A small quantity of *Trifolium minus* may be added, say at the rate of 6 lbs. per acre. Clover is of use in protecting the roots of the young grasses, and it dies out in three or four years.

WILD FLOWERS: *Young Gardener*. Do you think it honourable to get us to name the plants which you are going to exhibit at a competitive show, when we cannot do so for the other competitors? We will name them after the show; but you should not send more than six.

COMMUNICATIONS RECEIVED.—*I. K. B., Utrecht*—*A. B., La Mortola*—*H. M., Tonsberg, Norway*—*A. H., Nancy*—*Max L., Baden-Baden*—*W. S., Dublin*—*D. R. W., Dobbie & Co.*—*G. M., L. B.*—*J. H. P., J. B.*—*R. I. L.*—*A. M. C. and C. W. K.* (Fruit Returns received too late for inclusion in Tables).—*J. Y.*—*W. H.*—*W. H. S.*—*W. H. Aggett*—*H. J. C.*—*N. H. D.*—*J. Y. A.*—*Butcher*—*K. N.*—*G. J.*—*Nurseryman*—*W. C. & Son*—*H. D.*—*C. S. Vomero*—*W. Priest*—*H. E. F.*—*R. D.*—*J. O'B.*—*Stephen Castle*—*S. A.*—*G. M.*—*N. E. B.*—*S. A.*—*E. D.*—*C. Escuret*—*H. H.*—*J. Bradbury*—*J. Allsop*—*W. L.*—*W. H. D.*—*W. J. G.*

Supplement to the "Gardeners' Chronicle."



NARCISSUS MRS. GEORGE BARR: PHOTO. BY A. R. GOODWIN.

THE

Gardeners' Chronicle

No. 867.—SATURDAY, AUGUST 8, 1903.

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OPUNTIAS.

THE Opuntias form a well-defined genus of the Cactus family. They show a near relationship to the Pereskias, to which indeed a certain number of Opuntias has for a long time been referred.

Linné, who possessed a very imperfect knowledge of these plants, considered them varieties of one species, which he called Cactus Opuntia. De Candolle, in his *Plantes Grasses*, was of the same opinion. Muller was the first to establish the genus, using Linné's specific name. Haworth, in his *Synopsis Plantarum Succulentarum*, describes fourteen species. De Candolle, in his *Prodromus*, treats of thirty-three.

In the first half of the last century, when the cultivation of Cacti and other succulents was at its zenith, by far the greatest number of species were described by Prince Salm-Dyck, Lemaire, Pfeiffer, Link Otto, &c.; and later by the famous American, Dr. Engelmann. In our days many new species have been noted, chiefly by Dr. Weber, Paris, and by Prof. Schumann, of Berlin. At present the genus numbers from 140 to 150 species, which, however, are not all sufficiently known. As with all other suc-

culents, much confusion exists as regards the original types. Very often these have been lost from gardens, and unfortunately

without flowers or fruits. These plants from sunny and dry countries can only show their real nature where the conditions of life do not differ too greatly from those of their native country; for instance, in the Mediterranean region. Here indeed they are to be found half wild, and sometimes covering extensive tracts of rocky ground. The species generally met with are *Opuntia Ficus indica*, *O. monacantha*, and *O. vulgaris*. The latter now grows abundantly among the southern Tyrolean Alps, and by the Italian lakes.

BOTANICAL CONFORMATION.

Opuntias are Cacti with more or less elongated and jointed stems. The joints are flat or cylindrical, ellipsoid or globular. The young shoots bear distinct although mostly small leaflets, which soon fall off. Others have larger and more permanent leaves. The leaves are spirally distributed all over the joints, in the flattened as well as in the cylindrical ones. In their axils is situated the areola, and frequently the axis is more or less elevated on this place. The areolæ (fig. 32) are generally rounded and very small; they are covered with whitish or yellowish down.

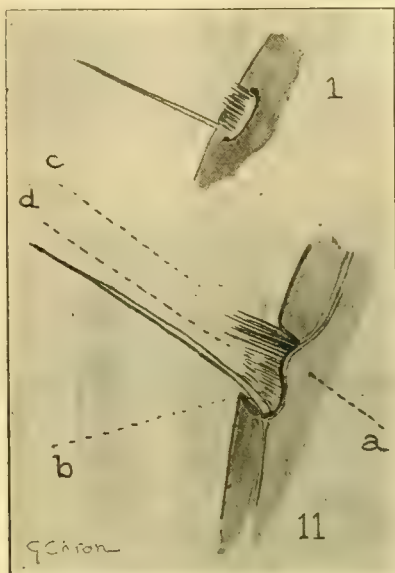


FIG. 32.—OPUNTIA STRICTA.

1, an areole.
11, Section of an areole, showing the growing point at a; b, base of fallen leaf; c, glochids; d, woolly hairs. (All real size.)

no specimens were kept in the herbaria. Without sufficient data and with often only very poor descriptions it is an impossibility to say whether a certain plant now in



FIG. 34.—FLOWER OF OPUNTIA FICUS INDICA, SEEN IN SECTION. (Reduced.)



FIG. 35.—FRUIT OF OPUNTIA MONACANTHA. (Half size.)

FIG. 33.—OPUNTIA SUBULATA.
Secondary flowers proceeding from the top of the old flower. (Half size.)

In the lower part of the areola spines are developed, while the upper part is (often in the form of a little brush) closely filled with "glochids." These glochids are a kind of prickle, which only occurs in the genus *Opuntia*. They are small and loosely attached, and are furnished with a barbed point, which makes them terrible weapons, as at the slightest touch they penetrate the skin, and can only be removed with difficulty. Some *Opuntias*—for instance, *O. microdasys*—only possess glochids, and although they look very inoffensive, they are of the most dangerous character.

The larger spines of *Opuntias* have also barbed and extremely acute points, which renders their sting very disagreeable; those of *O. tunicata* are especially painful. It is easier to tear away the whole branch than to get these spines out of your finger.

The areolæ, or woolly points in the axils of the leaves, correspond to the buds on a branch of a tree. They are the points from which vegetation starts, either into growth or flowers. They remain a long time active, and even in very old plants they annually send out spines which are often more formidable than those of younger areolæ.

our gardens is really the same as that described by the authorities already mentioned. Many of these species have been described from small plants grown under glass and in rather abnormal conditions,

Although joints and flowers are occasionally produced from any of the areolæ, they generally grow from the uppermost, or from those on the margin. The flowers are sessile, with a thick and short ovary, which has leaves, areolæ, and spines,

exactly like an axis. That it really partakes partly of the nature of an axis can easily be seen on those which produce no seed, but remain green and fresh like a branch. In the second year they often send out a new flower from one of the areolæ on the top. In this way quite a chain or succession of growth is maintained (see fig. 33).

The corolla is rotate, which means there is no deep funnel-shaped tube, as in most other Cacti, but the sepals and petals are spreading (see fig. 34). The bottom of the flower—or the top

impossible, because the style is always longer than the anthers. The style is generally thickened below, and tubiform above. The stigmata vary from four to thirteen; they unite in a head, or are spreading.

The fruits (see fig. 35) of the *Opuntias* are berries. Their shape, colour, juice, &c., vary according to the species. In many cases they offer the best guide to the recognition of the different kinds. Some are much appreciated as an article of diet—for instance, the Prickly Pear.



FIG. 36.—*OPUNTIA ARBORESCENS*, 30—40 FEET HIGH.

of the ovary, is generally a little concave. It is not exactly right to speak in Cacti of sepals and petals, as there exists no clear distinction between the two, but for convenience' sake we may as well call them so here. The outermost segments are short and fleshy; the inner are membranous, larger, and often of a brilliant red or yellow colour. They only open in full sunshine, and last from one to three days.

The stamens are very numerous, and spirally inserted. In nearly all the species they are shorter than the petals, and spreading; they are so sensitive that if the bottom of the filaments be touched, these will soon move towards the centre of the flower. Thus, the insects visiting the flowers are well pollinated. Self-fertilisation is

In some species the fruit gets hard and dry, as in *Opuntia cylindrica*.

The seeds of *Opuntias* differ from those of all other Cacti; they are roundish and flattened, with a hard testa; on the margin they are generally marked with a line. They are of a whitish colour, mostly glabrous, but sometimes villous. The embryo is annular, curved, with two, rarely three, large cotyledons.

The seedlings of all species make first a cylindrical, little differentiated stem, which soon begins to show its specific peculiarities.

Opuntias occur throughout America between 56° N. and 52° S., that is, from S. Canada to S. Patagonia. The West Indies and the Galapagos also possess a number of indigenous species.

CLASSIFICATION OF THE SPECIES.

Engelmann was the first to make a clear distinction between the genera *Opuntia* and *Pereskia*. Weber further pointed out the differences in the seeds, and Schumann those in the ovules.

Weber was the first to give us a good natural subdivision of the genus by retaining and defining more clearly those of Engelmann and Lemaire. Schumann added another section, and made the following subdivisions:—I. *Pereskopuntia*; II. *Brasiliopuntia*; III. *Cylindropuntia*; IV. *Tephrocactus*; V. *Platyopuntia*. Schumann should also have added to his series "*Cruciformes*."

Salm-Dyck included those *Opuntias* with exserted stamens in a separate genus, *Nopalea*. Although this is a very distinct characteristic, yet the plants agree so much with the common *Platyopuntia* that I prefer to re-unite them with the genus *Opuntia*.



FIG. 37. *OPUNTIA LEPTOCAULIS* VAR. *LONGISPINA*. (Reduced one-half.)

Adopting this view, the *Opuntias* are naturally classified in the following manner:—

OPUNTIA, Miller.

I. Plants with well-formed, large and flat joints:—

i. *Pereskopuntia*, Weber.

II. Plants with small cylindrical leaflets, soon falling off:—

1. Joints cylindrical or clavate:—

ii. *Cylindropuntia*, Engelmann.

2. Joints ellipsoid or globular:—

iii. *Tephrocactus*, Weber.

3. Joints flat:—

iv. *Platyopuntia*, Engelmann.

A. Joints differentiated in stem and branches, the stem with continual growth at the top:—

a. Stem round, cylindrical:—

1. *Brasiliopuntia*, K. Schumann.

b. Stem flat:—

2. *Consolea*, Lemaire.

(*Cruciformes*, Schumann.)

B. Joints all alike:—

a. Stamens exserted, longer than the petals:—

3. *Nopalea*, Salm.

b. Stamens included, shorter than the petals:—

4. *Tuna*, A. B.

The first section, *Pereskopuntia*, forms a connecting-link to the genus *Pereskia*, as is indicated by the name. In habit the plant resemble this genus so much that they have been referred to it. Six species are known, but they are seldom seen in gardens. They are all natives of tropical Mexico, one only is Californian. They have very long cylindrical branches, and flat, roundish, or

oblong leaves. The flowers are mostly yellowish, but those of *O. spatulata*, Weber, are said to be red. One species, *O. Pititache*, Web., is a very spiny tree, with horizontal branches. The Mexicans call it "La Cruz del Matrimonio."

The second section comprises all the species with elongated cylindrical stems; they occur from North to South America. Many of them are trees (see fig. 36), sometimes 30 to 40 feet high; others are shrubby or very low plants,

stems about the thickness of a pencil, and long spines (see fig. 37). Those of *Opuntia leptocaulis*, D.C., var. *vaginata*, Web., are enclosed in fine yellow sheaths; their flowers are very small and yellow. These plants very seldom flower, and produce scarcely any seeds. The ovaries remain sterile, and turn red like berries, but continue to send out little shoots. These easily break off, and thus the plants are generally propagated. These *Opuntia Monacanthæ* are North American.

which remains on the long spines when they are removed by force. These spines form natural pins. This *Opuntia* was for a long time considered to be a *Pereskia*, on account of its leaves, but the flowers and seeds are those of a true *Opuntia*. The seeds exceed in size those of any other *Opuntia* known.

Opuntia cylindrica, De Candolle, from Chili, belongs to the same group; it looks somewhat like a *Cereus*.

Opuntia floccosa, Salm., and *O. vestita*, Salm., from Peru and Bolivia, have long hairs in their areolæ. The former reminds us of the well-known *Cephalocereus senilis*, but it is much smaller.

The third section, *Tephrocactus*, comprises about fourteen species of very curious aspect. As stated above, they form little roundish or ellipsoid masses of a greyish-green colour. They can easily be divided into two groups—those with large, flat, papery spines, and those with common cylindrical spines. To the former belongs *O. diademata*, Lem., often found in gardens (see fig. 39); to the second group belong



FIG. 38.—*OPUNTIA SUBULATA* AT LA MORTOLA.



FIG. 39.—*OPUNTIA DIADEMATA*.
(WHOLE PLANT.)

O. aoracantha, Lem. (see fig. 40), and *O. ovata*, Pfeiff.

Some *Opuntias* have been referred to this section which would better have been placed amongst the *Platyopuntias*, as when old they form flat blades.

We have only a limited knowledge of the species of *Tephrocactus*. We know next to nothing about their flowers and fruits. They are all natives of South America, the distribution of the genus reaching there to its most southerly point.

The fourth section, *Platyopuntia*, comprises those with flat joints, known to everyone as "Prickly Pears." They are natives of the whole American continent, but are more common in North America, where some exist at the most northern point where the genus is found.

The first sub-section is formed by *Opuntia brasiliensis*, Haworth, a native of Brazil and Argentina. It differs in growth from the rest. It forms a main stem, which continues growing at the top, being terete, while the branches are flat. The flowers are yellow, and do not differ in any essential way. There is a good figure in the *Botanical Magazine*, 3,293. Though it is a tropical plant, it does well in La Mortola, and flowers annually. When old, the plant forms a tree; the lower branches fall off, just as do those of some *Euphorbias*—for instance, *E. grandidens*.

The second sub-section is of similar habit, only the main stem is flat, and the branches are directed distichously; the plants thus assume the aspect of a cross. They are formidably armed with numerous spines, which often exceed 2 inches in length. The flowers are also very curious.

which hardly deserve the names of shrubs. Some of the North American species bear their spines enclosed in sheaths. In La Mortola we have one very formidable species, the already-mentioned *Opuntia tunicata* from Mexico. It forms brilliant white masses 1 to 2 feet high, which are a great attraction to the numerous visitors, who cannot resist the temptation to touch it and make the acquaintance of its terrible spines.

Other curious-looking *Opuntias* are those which Schumann calls *Monacanthæ*. They have slender

In South America occur plants of the same habits and appearance; but their spines are simple—viz., without sheaths. To these belongs *Opuntia Salmiana*, Parm., an old well-known garden plant.

Opuntia subulata, Engelmann, is the most stately *Cylindropuntia* from South America; it is wild in Chili. In La Mortola it grows to a height of nearly 3 m. (9 feet), as is shown by the accompanying photograph (see fig. 38). Its branches are 2 to 3 inches thick, and bear long subterete leaves. The areolæ are filled with white down

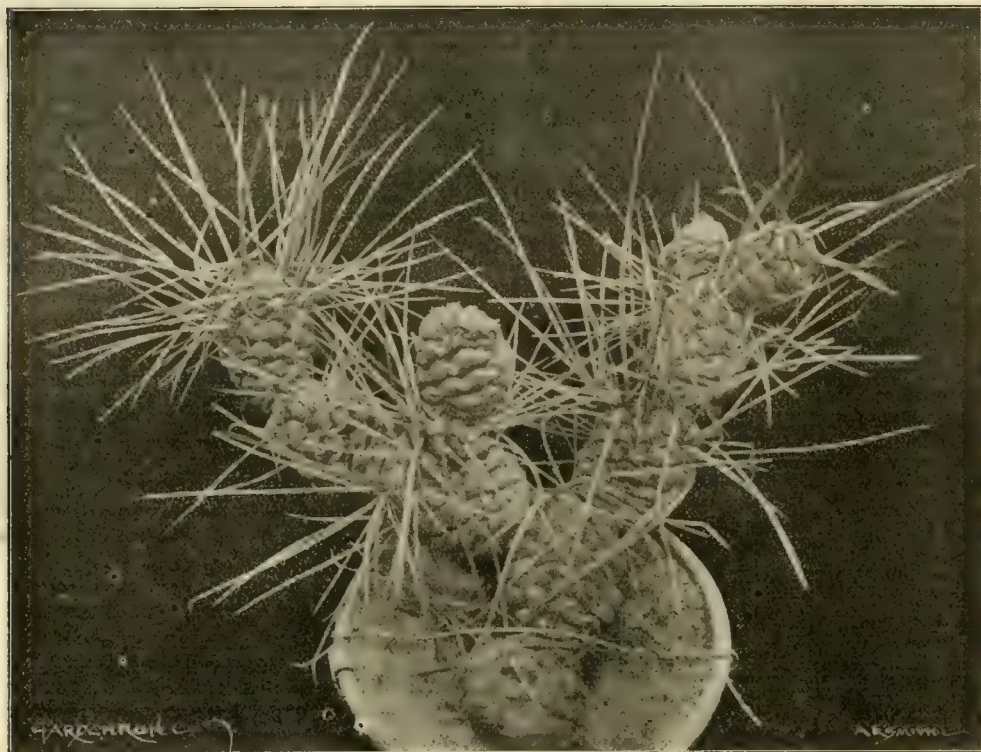


FIG. 40.—*OPUNTIA AORACANTHA* (ARGENTINA), FROM THE GARDENS, HOLLY POINT, HEATON MERSEY.

The ovary is flat, like a small joint; at the base the style is surrounded by a cup-shaped disc. On account of this, Lemaire founded the genus *Consolea*, named after Angelo Console, head gardener at the Botanic Garden, Palermo. *Opuntia spinosissima*, [Miller, is the best-known plant of this group; it comes from the West Indies. Probably two or three other species not yet sufficiently known may also belong to *Consolea*.

The third sub-section contains those *Platyopuntia* with stamens and style longer than the petals—the *Nopalea*, Salm. *Opuntia coccinellifera*, Mill., of which the drawing (see fig. 41) shows the flower, is the best known of this group. It is the plant famous for the cultivation of the cochineal insects, on account of its being nearly spineless. It is said to be a native of South Mexico.

Opuntia dejecta, Salm., and *O. Auberi*, Pfeiffer, are two other species belonging to this group. They are natives of Cuba. *Opuntia moniliformis*, Steudel, from San Domingo, is said to be also a *Nopalea*. *Opuntia Karwinskiana*, Salm., has not been introduced into Europe alive.

Sub-section 4, for which I propose the name "Tuna," comprises the bulk of the species of the whole genus. Although very similar in general aspect, they greatly differ in detail. Dr. Weber was the first to point out the importance of the fruits in this group.

A certain number of these Tunæ have the blades set with velvety, short hairs. *O. tomentosa*, Salm., for instance, is a tall, arborescent, much-branching species. Its limbs being unarmed by spines, it has been used for cochineal cultivation. Its flowers are deep red. *Opuntia hyptiacantha*, Weber, *O. crinifera*, Pfeiffer, *O. Scheerii*, Weber, have radiating spines and beautiful yellow flowers. *Opuntia leucotricha*, De Candolle, and *O. ursina*, Weber, have the older limbs completely covered with long, inoffensive spines. The fruit of the former is a yellowish-white berry, and it has a delicate flavour. It is sold in Mexico under the name of "Duraznillo" (Little Peach).

The rest of the Tunæ are all glabrous. It is difficult to define their relations to each other.

Species which are easily classed with *Opuntia Ficus indica*, L. (see fig. 42), are *O. Amyclæa*, Tenore, *O. decumana*, Haw., and *O. elongata*, Haworth. *Opuntia Amyclæa*, Tenore, is certainly nothing else than a spiny form of *O. Ficus indica* in its wild state, whilst those commonly known under this name are forms derived by cultivation with better fruits and fewer spines. In fact, the

flowers and fruits of *O. Amyclæa* and *O. Ficus indica* agree in every respect.

Opuntia robusta, Wendland, may also be mentioned here. Its large and thick limbs are sometimes more than 12 inches in diameter, and are extremely glaucous; its flowers are yellow, and its fruit resembles a small Apple. It is often cultivated in gardens, mostly under the name of *O. grandis* or *maxima*. Further, a certain number of *Opuntias* are distinguished by green joints, yellow spines, and Pear-like, clavate, red fruits with purple juice. Of these, *Opuntia Tuna*, Miller, may be considered the type.



FIG. 41.—*OPUNTIA COCCINELLIFERA*. (Flower, half size.)

Opuntia Rafinesquei, E. and B., and *O. vulgaris*, Miller, form another group. They are dwarf plants with small roundish joints. They are the hardiest of all the genus. *O. Rafinesquei* even reaches Cape Pelée on Lake Erie, Canada. Closely related to this group are *O. missouriensis*, *rhodantha*, *xanthostemma*, &c. These are largely cultivated in the open air in Northern Europe.

Although the above is only a very short account of the genus *Opuntia*, I hope to have shown that it contains many points of great interest, and that much may still be done to complete our knowledge of these plants.

In gardens they are generally disliked, certainly not without good reason; but here, in the

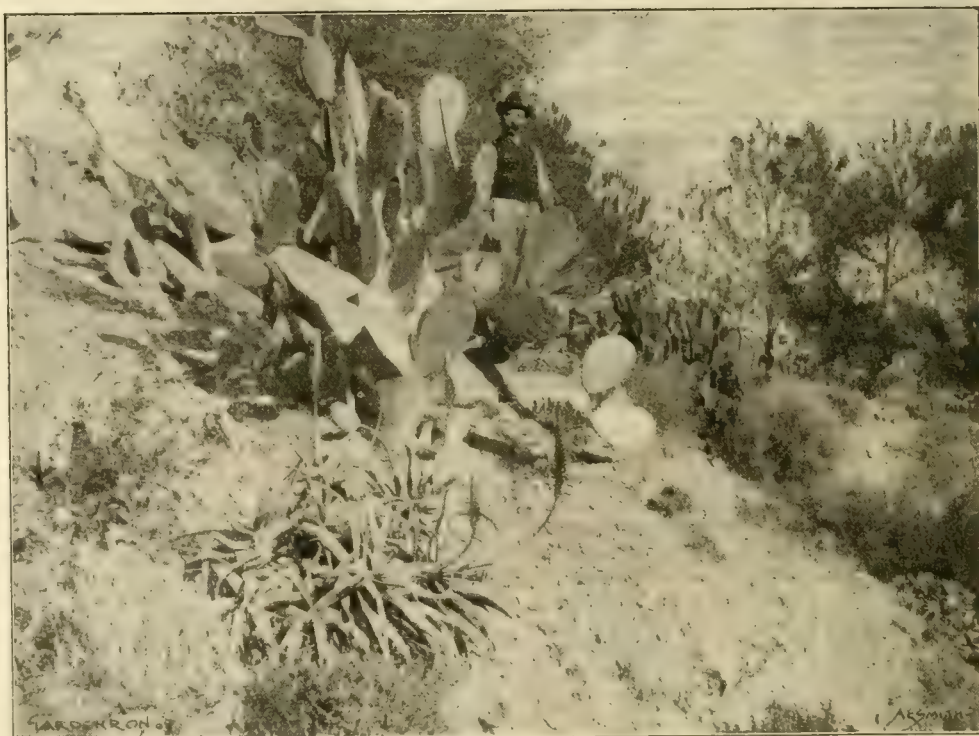


FIG. 42.—*OPUNTIA FICUS INDICA* AND *O. MICRODASY*: AN ALOE IN THE FOREGROUND.

South, they play a conspicuous part in the landscape. Their flowers are of the most brilliant and finest tints, and during our hot summer months they form the chief ornament of our gardens. *Alwin Berger, La Mortola, Italy.*

[The *Kew Index* adopts Miller's spelling of "Pereskia" instead of the more recent and perhaps more correct "Peireskia." For the sake of uniformity we follow the *Index Kewensis*. ED.]

THE HAY CROP OF 1903.

THE Rothamsted experiments on the mixed herbage of permanent grass land, which have now been continued over a period of forty-eight years (from 1856 to 1903), both without manure and with different descriptions of artificial manures, each manure being applied year after year to the same portion of land, show very variable results as to the amount of Hay obtained in the present season.

The plot which has received no manure whatever for the whole period of forty-eight years has given a little over half a ton of hay per acre, which is only about one-half the average produce for this plot of land.

Superphosphate of lime, used alone, yielded nearly 23 cwt. of hay per acre, which is slightly over the average for this plot.

The plot receiving each year sulphates of potash, soda and magnesia with superphosphate, gave 49½ cwt. of hay per acre. This is 14½ cwt. per acre in excess of the average of the forty-eight years for this plot, which is due to the extensive growth of the Clover plants in the herbage encouraged by the application of potash in the manure. Not an ounce of nitrogen has been applied to this particular plot during the whole of this long period, but the Clovers favoured by the potash have been the collectors of the necessary nitrogenous food from the stores in the atmosphere.

An adjoining plot, which receives the same descriptions of manure each year, except that potash is omitted, has yielded only 23½ cwt. of hay per acre, and is 4½ cwt. less than the average produce. Thus, without potash, although all the other minerals, including phosphates, were used, the Clovers and Vetchlings could make no progress, and the nitrogen was not collected. Consequently even the grasses made very meagre growth. The omission of potash made a difference of 26½ cwt. of hay per acre, and the yield was of an inferior quality.

Sulphates of potash, soda, magnesia, and superphosphate, with the combination of 400 lb. ammonia salts per acre, yielded 50 cwt. of hay. The same mineral manures, in combination with 550 lb. nitrate of soda per acre, produced 53½ cwt. of hay; both these plots are slightly under average; while the plot which received the highest manure dressing yielded 79½ cwt. of hay. On this plot the produce was nearly 4 tons of coarse, strong-growing grasses, to the absolute exclusion of any Clovers. This heavily-manured plot produced more than half a ton of hay per acre in excess of the average quantity, but of a very inferior quality.

The area of several of the plots has this year been divided, and upon one half, in addition to the usual manures, has been applied a dressing of 1,000 lb. of ground quicklime per acre. The dryness of the season up to the beginning of June prevented the lime from producing its full benefits, but a gain in produce has in most cases been obtained, sometimes to the extent of half a ton of hay. The best effect is shown where there was an available supply of potash in the soil.

Splendid weather, with bright sun at the time of hay-harvest, high temperature, and strong winds, has contributed very largely to the successful in-gathering. There was this year little difficulty in obeying the old adage to "make hay while the sun shines." *J. J. Willis, Harpenden.*

NEW OR NOTEWORTHY PLANTS.

CEREUS GREGGII.

A CACTUS with a large tuberous root is an anomaly, reserve food-material being almost invariably, in the plants of this order, stored in the succulent stems, the root system being com-

hard clayey soil. The root is 18 inches long, 8 inches in diameter, and it weighs 12½ lbs. "This characteristic species seems to be scattered and rare throughout its range (Texas, New Mexico, and Arizona). A single stem usually arises from the enormous root, but sometimes there may be many stems" (Coulter). The plant here shown has a forked stem, but in the other plant at Kew the stem is unbranched. The flowers are described as whitish or ochroleucous, 6 to 8 inches long, and about 2 inches across. *W. W.*

SAUROMATUM BREVIPES, N. E. BR. (N. SP.).

This is one of the most distinct and at the same time one of the prettiest Aroids I have seen. Except in its pedate leaves it bears very little resemblance to the well-known *S. guttatum*, than which it is much smaller, for the pale purplish-tinted spathes, instead of being solitary as in that species, are numerous and crowded together in a mass, producing a rather pleasing effect. Although new to cultivation it is not new to science, but has been misunderstood botanically. It is a native of the Sikkim Himalayas, where it was long ago discovered by Sir Joseph Hooker, whose specimens (in fruit only) were thought by Schott to belong to *Typhonium pedatum*; this, however, I have shown to be incorrect at the place quoted below. Subsequently it was described by Sir Joseph Hooker as *Typhonium brevipes*, but only one perfect inflorescence was then available, and, on account of its flattened condition, the fact that the basal part of the spathe was connate into a tube (the distinctive character of *Sauromatum*), and not simply convolute (as it should be in *Typhonium*), was overlooked. In the living plant this character is very evident, and although unlike other species of *Sauromatum*, it is clear that this plant must now be transferred to that genus. As no complete description of it in a flowering state has yet been published, I subjoin the following, made from a living plant which flowered in the Botanic Gardens, Cambridge, in June, 1902. A drawing of it has been prepared for the *Botanical Magazine*.

Rootstock a tuber, in young leaf and flower at the same time. Leaves 1—3 from a growth, pedate, glabrous; petiole 4½—15 inches long, smooth, of a dull purplish-red tint, without markings; segments 5—9, linear-lanceolate or lanceolate, tapering to a very fine point, the middle one 3—10 inches long, 5—16 lines broad, sessile or united with the decurrent bases of the lateral segments, which are gradually smaller, all dark satiny green, with the midrib and edges dull purple beneath. Spathes lateral or surrounding the leaves, crowded. Peduncle ½—¾ inch long, scarcely rising above the surface of the ground, smooth, glabrous. Spathe-tube 1¼ inch long, ¾—¾ inch in diameter, glabrous, inflated-ellipsoid for about 1 inch of its length, angular from mutual pressure, constricted and dorsally compressed above, very pale green, with pale dull purplish spots; limb 4½—5½ inches long, ½ inch broad at the oblique base, where it is arched forward, with wavy margins, thence gradually tapering to the very acute apex, and more or less twisted in the upper part, outside of a pale dull purplish tint, darker purple inside at the base and in the throat of the tube. Spadix as long as the spathe, sessile; female part about ¼ inch long, broadly ovoid; the part between the ovaries and anthers 6—7 lines long, white, and bearing two whorls of stout, spreading, clavate, white neuter organs in the lower half, dark-purple, and very rough or shaggy with minute processes in the upper half; male part ½ inch long, ¼ inch thick; appendix 5—5½ inches long, 1½ line thick at the base, terete, tapering, more or less curved forwards, usually somewhat flexuose, olive-green or dull ochreous, more or less tinted with purplish on the lower part. Ovaries very numerous, densely crowded, minute,



FIG. 43.—*CEREUS GREGGII*, ROYAL GARDENS, KEW.

paratively small. In *C. Greggii*, however, the root appears to be the reservoir, whilst the stem is rather thin and woody. The example represented in the accompanying photograph (fig. 43) is one of two exceptionally large ones lately imported with other large Cacti from Arizona, where this species is said to grow in gravelly or

$\frac{3}{4}$ line long, compressed-obovoid, very pale yellowish-green as seen in the mass, one-celled; stigma sessile, minute. Ovules two, erect, basal, orthotropous. Anthers numerous, crowded, yellow. *Typhonium pedatum*, Schott, in *Oesterr. Bot. Wochenbl.*, 1857, p. 262 partly; see N. E. Brown, in *Journ. Linn. Soc. Bot.*, v. 18, p. 260; T. brevipes, Hook., fil., *Fl. Brit. India*, v. 6, p. 511.

The following specimens of this species are in the Kew Herbarium:—Sikkim, 7,000 feet, Hooker; Darjeeling, 7,500 feet, Clarke 26708; Sonada, 7,000 feet, Clarke 28091; Jore Pokri, 7,600 feet, Gammie. N. E. Brown.

ORCHID NOTES AND GLEANINGS.

BURFORD LODGE, DORKING.

SIR TREVOR LAWRENCE'S collection of Orchids, the oldest in Europe, has never looked in such fine condition throughout as at the present time, although it has always been among the best, and its excellence is all the more praiseworthy when it is considered that it includes a very large number of rare species from little-known countries, and with many of which other orchidists have had sad experience. But even at Burford the "ups and downs" of Orchid-culture has been experienced. Some of the species which now thrive there to perfection gave trouble in the beginning, and others of which only one or two specimens were ever obtained, departed. Even failures brought experience, and the collection to-day is the better for them.

Orchidists are "taking sides" on the question of culture in leaf-soil, or some preparation in which partly-decayed leaves form the greater proportion. Sir Trevor Lawrence sides with the advocates for the use of leaves, and, like all the others who are successful with it, has his own formula. No stronger proof of the benefit to be derived by those who know how to use leaves in part as a compost in which to grow Orchids could be found than the marvellously vigorous condition of all the Orchids in the Burford collection. Mr. W. H. White, the Orchid-grower at Burford, is very enthusiastic in its praise, and showed plants which were in a critical condition—as, for example, some of the rare Brazilian cool-house *Oncidiums*, *O. Larkinianum*, *O. Mantinii*, &c.—which were fast declining before being placed in the leaf preparation, but which are now in splendid condition. The several houses of *Odontoglossums*, which contain so many valuable varieties of *O. crispum*, &c., also by their vigorous growth and superb flowering proclaim the advantages of the new method of culture.

Among the *Cypripediums* it is pleasant to note the increasing size and strength of the fine specimen of *C. Stonei platyanum*, and that a plant of *C. Fairianum* is in splendid health. If the few known plants of it continue to decline as they have been steadily doing, and this one to improve as it has done lately, it will be the sole survivor. Moist intermediate temperature, shade, and a much more liberal supply of water than was formerly given it has saved it. Other *Cypripediums* finely in bloom were several *C. × tonso-Rothschildianum* (with very large distinctly-formed flowers), *C. × Harrisianum superbum* (still the finest of its section), *C. × Clinkberryanum*, a very beautiful form of *C. Chamberlainianum*, and an effective cross between *C. Rothschildianum* and *C. superbiens*. The foliage of the large specimens renders the plants beautiful even when not in flower, and the number of new seedlings yet to flower promise well.

In the same large span-roofed house in which the specimen *Cypripediums* are grown, the large plants of the different species of *Phalænopsis* were observed in the best possible health. *P. violacea* is in flower. Suspended from the roof are a very remarkable collection of *Bulbo-*

phyllums and *Cirropetalums*, *B. patens* (with purple stellata flowers), *B. longisepalum* (with long, beaked, purple blooms), *B. barbigerum* (the motile, feather-lipped), *B. elegans* (with singular inflated-looking white and purple flowers), and some others being in bloom.

Eucharis grandiflora grows and flowers well planted beside the walk in front of the hot-water pipes; and at one end is a number of specimens of *Anætochilus*, *Macodes*, *Hæmaria*, &c., with beautifully coloured foliage. Most of the specimens are grown under bell-glasses, but *Goodyera Rollissonii*, *Hæmaria discolor*, and some others are thriving so much better planted in the moss of the other Orchids and without bell-glass protection, that that plan will be extended.

The large span-roofed house in which the *Sobralias* occupy the central stage has still some of those plants in bloom, and the collection of *Epidendrums* grown in the same house has the scarlet *E. cinnabarinum*, *E. Schomburgkianum*, *E. fulgens*, *E. Linkianum*, *E. pterocarpum*, *E. × radico-vittelinum*, &c.

The *Cattleya* and *Lælia* houses have a number of *C. Warscewiczii* in flower, among them being the rare *C. W. saturata* (in which the eye-like whitish patches on each side of the labellum of the ordinary form are obliterated), *C. Rex*, *C. × Adolphus* (with rich orange flowers spotted with purple), *C. × Miss Harris*, *C. × H. S. Selfridge*, and some others, the best of which is a hybrid *Lælio-Cattleya* between *L.-C. Schilleriana* and *L. purpurata*, raised at Burford, the excellence of which may be attributed to the fine varieties used in its production.

The cool Masdevallia-house, with its shelf of rare *Pleurothallis*, *Octomerias*, *Stelis*, &c., always has a good show of flowers. Among the *Masdevallias* in flower, *M. × coriacea × Veitchiana* has distinct orange-tinted flowers; a large form of *M. maculata* has flowers of a purple colour; and *M. trichete*, *M. muscosa*, *M. calura*, and others are in bloom. In this cool-house *Stenoglottis longifolia* thrives well; and in an adjoining small house the *Disas*, which have formerly given trouble, have a number of *D. grandiflora* giving their showy scarlet blooms.

The *Aërides* and *Vandas* are in excellent condition. These plants are of late years considered the most difficult to grow successfully, yet at Burford they are among the best subjects in the collection, some of the plants (such as the two fine specimens of *Aërides Schroderi*, the original *Aërides Lawrenceæ*) having been there many years.

Other interesting things in bloom in the Orchid-houses were *Grobya galeata*, *Gomesa laxiflora*, *Polystachya villosa*, *Odontoglossum bictense album*, *O. aspidorhinum*, with many spikes; *Dendrobium cumulatum*, *D. sulcatum*, *Cirrhaea viridipurpurea*, *Zygopetalum velatum*, a remarkably fine *Oncidium pulvinatum*, *O. phymatochilum* with a thirteen-branched spike, and other *Oncidiums*; the singular *Sarcochilus hainanensis* with many spikes forming, *Angraecum filicornu*, *A. Eichlerianum*, *A. carphophorum*, *Eulophia guineensis*, and *Sopbro-Cattleya × Chamberlainiana*.

In the greenhouses the pretty *Lobelia tennior* is a mass of dark-blue colour, the hybrid *Streptocarpus* very showy, the *Anthuriums* good, and the new *Passiflora maculifolia* a handsome-leaved climbing plant.

THE FLOWER GARDEN

at Burford always presents many rare and pretty flowers, as well as most of the standard favourites at their best. The coloured Water-Lilies, both in the basin on the lawn and in the sunk tubs in which the duplicate plants are kept, have produced a fine show of flowers. On the walls *Solanum Wendlandi* has flowered this year as well as formerly; *Hidalgoa Wercklii* has a number of pretty scarlet flowers; *Lathyrus pubescens*

has many trusses of pale-blue, and *Gerbera Jamesoni* some orange-scarlet blooms. In the beds and borders the *Violas* are very fine this year; so also the *Roses* and *Carnations*; the hardy *Crinums* have in bloom a large number of the pure white *C. × Powellii album*, many of the original pink form, and a quantity of *C. Moorei*, which is later to bloom, just sending up spikes. *Convolvulus althæoides* is a charming and uncommon plant. It has formed a large patch of silver-grey leaves and pink flowers in the border, and is running up the fence at the back. *Romneya Coulteri* is a mass of satiny-white flowers. *Campanula macrostyla* has large salver-shaped blooms, and a bed of *Tulbaghia violacea* is very showy.

REMARKS ON THE CONDITIONS OF THE FRUIT CROPS.

(See Tables, ante, pp. 72–77.)

O. SCOTLAND, N.

ORKNEY.—The cold weather generally and sharp frosts in the spring destroyed the fruit while it was yet in the bud, and what little formed soon dropped off. *Thos. MacDonald, Balfour Castle Gardens.*

ROSS-SHIRE.—The fruit crops are on the whole very satisfactory, for we were fortunate in not having the frost which did so much damage about June 20. Apples are a fine crop; some young trees which I planted two years last season have very good crops. Pears are also a very good crop, and Plums are plentiful. Gooseberries are the finest crop I have seen for years. Strawberries have been good and finely flavoured, we still have a good supply (July 24). Peaches are nothing like what we are used to. Raspberries and all small fruits generally have grand crops. *Henry Henderson, Cromarty House Gardens.*

SUTHERLANDSHIRE.—Apples are a very poor crop, the worst for a number of years. There was little or no bloom on many of the older trees, probably owing to the wood being badly ripened last season. Strawberries are good; Raspberries good but late. Other small fruits have average crops, excepting Gooseberries, which are much under the average. *S. Melville, Dunrobin Castle Gardens, Golspie.*

1, SCOTLAND, E.

ABERDEENSHIRE.—Apples are a general failure, as also Gooseberries; Strawberries an average crop, but some of the late varieties suffered from a frost on June 19. Most of the small fruits are about ten days later than usual. *James Grant, Rothie Norman Gardens.*

—The fruit crops in this part are very partial, taking them all over, owing to the last season being so wet and so little sunshine to ripen the wood; also the cold frosty nights of May and early in June did a good deal of damage. A few varieties of Apples, such as Lord Suffield, Stirling Castle, Keswick Codling, are cropping fairly well. Pears are scanty and very poor. Plums on walls are an average, particularly the Victorias. Bush fruits of all sorts are much under the average of former seasons, and are late. *John Brown, Delgaty Castle Gardens.*

—The fruit crops are the worst we have had for years, especially Apples and Pears, which showed an abundance of blossom, which set well; but the continuance of cold at night, together with the lack of rain, ruined the crop; and not only have the fruits dropped, but on most of the trees the leaves around the buds have all decayed. *J. Frazer Smith, Cullen House Gardens.*

BERWICKSHIRE.—The Apple crop is the worst we have had here for many years. There was a fair amount of bloom, but during the setting period a spell of cold, sunless weather set in, and

the fruit did not set. What fruit we have is mainly on Codlin varieties. The trees had a second show of blossom, which is very exceptional. As to amount, Pears are a better crop than Apples, but still below the average. Doyenné Boussouch Pear never fails to crop here. Strawberries are an extra large crop, and of good quality. Small fruits fair. *John Cairns, The Hirsell Gardens, Coldstream.*

FORFARSHIRE.—The fruit crops in the gardens here, taken altogether, are rather below the average. Apples are not nearly so regular a crop as usual, some trees carrying good crops, while others are very thin or are bare of fruits. The Plum crop is a good one, and the trees are making healthy growth. Strawberries are turning out better than I anticipated, and since the rains came the later varieties improved much. Black and red Currants and Gooseberries are below the average. Raspberries are a fair crop. *W. McDowall, Brechin Castle Gardens.*

—Owing to the sunless season of 1902 the wood of the fruit-trees was in an ill-ripened condition, consequently there is a very thin crop of all large fruits. Small fruits, with the exception of Black Currants, are a fair crop. Strawberries, having now got sufficient moisture at the root, only want sunshine to ensure a heavy crop. Raspberries are looking well. Late Peaches under glass retained their leaves in a green state for a long time in the autumn of 1902; and although a good set of fruit was secured, only a very thin crop is now swelling. *Thos. Wilson, Glamis Castle Gardens.*

HADDINGTONSHIRE.—The worst we have experienced since 1880. Fortunately, Currants, Gooseberries, Strawberries, &c., are a crop; but, as a whole, these too are below average, and only to-day I hear from a salesman that Black Currants are selling at "ransom prices." *R. P. Brotherston, Tynninghame Castle Gardens.*

—The fruit crops in this locality are very irregular, owing chiefly to the lack of rain after the fruit was set, and also to the cold east winds experienced during the flowering period. Apples are an average crop, but Plums and Pears are very light; of the first, Keswick Codlin, Lord Suffield, East Lothian Seedling, and Warner's King are the best; while of the last, trees of Souvenir du Congrès, Durondeau, Easter Beurré, and Madame Treyre, are carrying the heaviest crops. Apricots did not suffer so much as Peaches and Nectarines, consequently some varieties are heavily laden, especially Moorpark and Large Early. Strawberries, Raspberries, and Black Currants are very fine. *Wm. Galloway, Gosford Gardens, Longniddry.*

KINCARDINESHIRE.—The early part of the season was very unfavourable for the success of the fruit crop, being wet and cold with nasty harsh frosty winds, and the Apples, being latest in flower, have had the best chance. Everything remained stationary during June owing to the dry weather prevailing, since which we have had rain and heat, and all fruits are swelling rapidly. *J. M. Brown, Blackhall Castle Gardens.*

MIDLOTHIAN.—A fall of snow in April, followed by successive nights with 8° to 10° of frost, destroyed the opened flowers on fruit bushes. Black Currants are a failure, the exception being in late districts and with late varieties. From the same reasons Gooseberries are a partial failure; Red Currants are a heavy crop; Strawberries are of good size, and the crops above the average. Apricot and Peach-trees showed but few flowers, the result of the heavy crops of last year and the lack of sunshine to ripen the fruit and wood. Plum-trees flowered heavily, but a continuance of cold north-east wind made even the hardiest drop all their fruit. Pears are a very thin crop. Apple-trees flowered and set

well, but a large proportion of the fruit when of the size of marbles fell off—a common sequel to bad ripened wood. The good exceptions are few, the best being Golden Spire and Worcester Pearmain. *James Whytock, Dalkeith Gardens.*

—The prospect of an all-round good year of hardy fruit in this district was very promising in early spring, the fruit-trees being generally masses of bloom; but owing to the cold, wet, sunless autumn of 1902 the wood did not ripen, and the blossoms, especially those of Apricots and Pears, failed to set. There are a fair crop of Apples on trees of Ecklinville and Lord Suffield; Plums and Cherries are below the average; Raspberries are a large crop and good; Black and Red Currants are under the average; Strawberries are good. *D. Kidd, Carberry Tower Gardens, Musselburgh.*

PEEBLES SHIRE.—Apples are nearly a complete failure; Plums, with the exception of Denyer's Victoria, are a very thin crop. Cherries are abundant and of good quality. Strawberry-plants suffered a good deal from spring frosts. Gooseberries on high land are an average crop, whilst those that were earlier in flower on lower land got destroyed by frost. *M. McIntyre, The Glen Gardens, Peebles-shire.*

6, SCOTLAND, W.

AYRESHIRE.—Fruit crops hereabouts of all kinds are much below the average. Apples are almost a failure. Small fruits have very thin crops, which is not to be wondered at after experiencing 16°, 11°, 9°, 7° of frost on successive nights in the middle of the month of April. *W. Priest, Eglinton Gardens.*

DUMFRIESHIRE.—The weather conditions for the past twelve months have been in this district most unfavourable for successful fruit-growing out-of-doors. All over the south-west of Scotland Apples and Pears are, even in favoured spots, very much under the average, and stone fruits, such as Apricots, Peaches, Plums, Cherries, &c., are comparatively speaking a failure. Amongst small fruits Raspberries and Strawberries are the only kinds that are giving anything like a remunerative crop. In most cases Gooseberries and Currants are a complete blank. I am afraid 1903 will stand clearly out as one of the worst fruit years on record. At least, in this district it will be remembered and written down as such. *John Mackinnon, Terregles.*

—Apples, Pears, and Plums are almost a total failure, although the trees flowered exceedingly well. Black Currants are fairly good in quality, but the crop is under the average; and the same remarks apply to red and white Currants and Gooseberries. Raspberries are the best of the small fruits, having escaped the late spring frosts. La Grosse Sucrée Strawberry is the best with me this year; others have very poor crops, for although the plants flowered fairly well, the fruits did not set, forming small hard knots instead of fruit. *J. McDonald, Dryfeholm Gardens.*

STIRLINGSHIRE.—The blossoms of Apples, Pears, and Plums were destroyed by the frosts in May—17° on one occasion—and the crop of these fruits is the worst known in this locality for the last thirty years. Raspberries are a full crop. The mite is very prevalent on Black Currant bushes. *Alex. Crosbie, Buchanan Gardens, Stirlingshire.*

WIGTONSHIRE.—Not for many years have the fruit-crops been so light as this season. Apples, Pears, Plums, and Cherries are, throughout this district, the worst on record, very many of the trees being fruitless. Fig-trees on walls have a fair crop of fruits. Gooseberries are slightly below the average; while Currants and Strawberries are satisfactory both in quantity and quality. *James Day, Galloway House Gardens.*

2, ENGLAND, N.E.

DURHAM.—The blossom of all kinds of fruit crops were very promising, but owing to the late frost the fruits on Apple and Pear-trees dropped. Black Currants, although not in flower at the time of the worst frosts, suffered the most. Red Currants are satisfactory, and Raspberries now in flower are full of promise. There are very few Apples and Pears, we having suffered greatly from east winds, which also has damaged their foliage. *R. Draper, Seaham Hall Gardens.*

—The fruit crops in the North are the poorest that I have known during an experience of more than forty years. The severe frosts in April and May destroyed the blossom on Apples, Pears, Plums, and Currants. The Strawberries escaped, and the crop is a very abundant and fine one. *James Noble, Woodburn Gardens.*

NORTHUMBERLAND.—Taken on the whole, this is one of the poorest fruit seasons for some years in this district, the cold, ungenial spring weather so long continued being deadly in its effects on Apples and bush fruits. Strawberries are a fairly good crop, the district being a somewhat late one for this fruit. A large acreage of Strawberries is grown for market. *George H. Ackroyd, Howick Hall Gardens.*

YORKSHIRE.—The present season will long be remembered in this district for the scarcity of fruit, as, with the exception of Strawberries, Gooseberries, and Raspberries, there is nothing. Apples and Plums are quite a failure; a few Pears; a few Cherries; Black and Red Currants a poor crop, and in many gardens none. At Birdsall, Strawberries have been good but much damaged by rain; the small preserving varieties, Grovend Scarlet and Black Prince, had heavy crops, which were gathered in good condition. Royal Sovereign stands rain badly; President and Gunton Park are very good, the latter being one of the best varieties. A redeeming feature in this bad season is the beautiful appearance of the Loganberry, the plants of which are rich in fruit. The trees are suffering more from the effects of last summer's cold and unseasonable weather than from late spring frosts. Apples, Plums, Cherries, and Pears did not mature the wood. *Bailey Wadds, Birdsall Gardens.*

—The fruit crops in this portion of Wharfedale are most disappointing. Apples, Pears, Plums, and all other stone-fruit are very scarce, much blossom being damaged by the late spring frosts. Amongst small fruits, Black Currants are very poor indeed; Gooseberries are in some instances very good; in some cases the Strawberry crop is very heavy, as in this garden. Amongst the varieties which do well here I may mention Royal Sovereign, King of the Earlies, President, Leader, Vicomtesse H. du Thury, Latest-of-All, and La Grosse Sucrée. Blossom on fruit-trees was very scarce indeed; many old Apple-trees which usually carry heavy crops had not a blossom, doubtless owing to unripened wood, the result of the sunless autumn of 1902. Fruit suffered very greatly through the great gale which occurred in the early part of July. *John Snell, Farnley Hall Gardens.*

—The fruit crop here is a complete failure, with the exception of small fruits, which were an average crop. Nothing could have withstood the severe weather we had in this locality in the spring, even with more than ordinary protection afforded. Our Peaches under glass protector and four folds of herring-net were stripped clean after the flowers were well set. We had twelve successive nights of frost in April, culminating on the 26th with 17° of frost. We have no Pears, Peaches, Apricots, or Plums. Apple-blossom, although not open, was cut off at the stalk, and very few were left unhurt. The standard trees in the orchard have none on; the crop of Quinces

was destroyed and the trees very much crippled. The following are a few Apples with a few on (they are bush and espalier):—Grenadier, King of the Pippins, Beauty of Kent, Domino, Cox's Pomona, Suffield, Jas. Grieve (full crop), Peasgood's Nonsuch, Potts' Seedling, Lord Grosvenor, Lady Elizabeth de Faby, and Cellini (full crop). *Charles Simpson, Newby Hall Gardens.*

— The fruit crops are very unsatisfactory, much worse than last year; indeed, there are scarcely any Apples, Pears, or Plums. The trees bloomed very irregularly, the frosts and biting winds destroying what bloom there was. Plums appeared to set well on the walls, but most of them dropped off when about of the size of large Peas. Morello Cherries, generally a good crop hereabouts, have failed. Strawberries, Gooseberries, and Raspberries are our best crops this year. Fruit-trees generally were very late in starting into growth, and many varieties have made but little wood. Stone fruits are much infested with aphides. *J. S. Uper, Wiggantherpe.*

— With the exception of Strawberries, Gooseberries, and Apricots, there is, practically speaking, no fruit in this district. It is without doubt the leanest year since 1879. I do not think that the whole cause of this scarcity is attributable to the very ungenial weather during the blossoming period. The previous summer and autumn were very dull and sunless, hence the fruit-buds were imperfectly formed. Speaking generally, Apple, Pear, and Plum-trees have made healthy growths. We have had ample rains to reach the deeper roots. If we can but have a fair amount of sunshine now onwards until autumn there will be good hopes of fine crops next year. *Henry J. Clayton, Grimston Gardens.*

3, ENGLAND, E.

ESSEX.—The very unpropitious weather which prevailed during the whole time that Pears, Plums, and Apples were in flower is responsible for the crops of those fruits—if crops they can be called—for the year 1903 being the very worst experienced in this county for many years past. In fact, as regards trees growing in the open, the crops are a complete failure. Bushes of Black Currants and Gooseberries, as well as Raspberries and Strawberries, bore excellent crops of fine fruit. *H. W. Ward, Lime House, Rayleigh.*

LINCOLNSHIRE.—I do not remember such a poor fruit crop. Sharp frosts and cold biting north and north-east winds in April destroyed nearly all the blossom of the Peach, Nectarine, Pear, Plum, and all the early flowers of the Cherry-trees; and as if this was not bad enough birds, bullfinches, sparrows, &c., made sad havoc with the Apple-blossom, a later frost completing the destruction. I do not think there will be half a stone of Apples in the gardens here. Strawberries have been a good average crop, and with nice weather at ripening time have been very good. Gooseberries furnish the only other satisfactory crop. *H. Vinden, Harlaxton Manor.*

— The fruit crop on the whole is, in this district, a complete failure. The trees at first promised well, but owing to the late spring frosts, especially those occurring between April 12 and 18, when from 3° to 10° were registered daily, accompanied by N.E. winds and snowstorms, all blossom was destroyed. The Plum-trees are making poor growth, and they are much overrun with insect-pests. Pear and Apple trees are cleaner, but they are almost devoid of fruit. Small fruits are also disappointing, with the exception of Strawberries; the latter show average crops of superior quality. During the twenty-four years I have been in these gardens I have never had such a scarcity of outdoor fruits. *John Rowlands, Manor Gardens, Bardney.*

NORFOLK.—The great scarcity in most fruit crops this year is due to the disastrous frosts of mid-April. Peach and Nectarine trees suffered very much, being in some places completely crippled. In some gardens there are good crops of fine quality. The same remarks apply to Cherries. Black Currants are very scarce. Red Currants and Gooseberries have in some gardens good crops of fruits, and of Raspberries the crops are heavier than usual. Strawberries are a good crop, but deficient in flavour, and the fruits have rotted in large numbers. On the whole, the season is the worst we have had hereabouts for very many years. *E. C. Parslow, Shadwell Court Gardens, Thetford.*

SUFFOLK.—Taken as a whole, the fruit crop in this district is one of the worst that I can remember. Of Pears and Plums there are scarcely any. Cherries, a very partial crop and much under the average in quantity. Great numbers of Apple-trees round about are quite destitute of fruits, and this without regard to variety. The Gooseberry and Currant crops are an extremely poor crop; Strawberries and Raspberries are the only good fruit crops we have. All this scarcity results from the ten frosty nights which occurred between the 8th and 25th of April. *J. Wallis, Orwell Park Gardens.*

SUFFOLK.—The fruit crops in this district are very disappointing. There was an abundant blossom on all kinds of fruit-trees in the spring, but the continual frosts from the first week in April till nearly the end of the month destroyed the blossom and young fruit, and all hopes of a fruitful year. The crops of Peaches and Nectarines are variable; in some places the young growth was injured by frost, so much so that the trees are crippled and apparently quite beyond recovery. In other places around the trees are in good condition, carrying a fair quantity of fruit. The fruits on Pear, Apricot, and Cherry trees are few. Strawberries are plentiful and very good, but small fruits generally are a partial crop. *H. Fisher, Bungay.*

(To be continued.)

THE FLOWERING OF HARDY BAMBOOS.

NEARLY all over Great Britain and Ireland some or other of the hardy Bamboos are flowering this year. So far the only two species I have noticed are *Arundinaria Simoni* and *Phyllostachys nigra*, which have also flowered during recent years at Kew and Batsford Park, whence we have a seedling of both species reared from home-grown seeds. The profusion with which *A. Simoni* is now not only flowering, but fruiting, in the Trinity College Gardens at Dublin is well shown by the fertile culms I send herewith. The seeds or fruits are nearly naked, and resemble very fat and heavy Oats, but are larger and more glossy. When the fruit approaches maturity the fruiting branches easily disarticulate themselves just below the fruit, which falls to the ground if wind or other natural agencies should disturb the culms.

It was formerly believed that when Bamboos flowered they invariably died after ripening the seed. In some cases this is probably true, as observed in India and elsewhere; but Lord Redesdale informed me some time ago that in the case of *A. Simoni* this does not usually take place, and that, although the clumps look very brown and miserable for a time, young leafy shoots again appear from the stout, Couch-grass-like stems that run about underground.

I hope that growers of these woody or shrubby grasses will look at their plants carefully, and especially note any other species that may now be showing flowers in British gardens. Their dry-looking or shabby appearance is usually an

indication of this taking place in the case of large and long-established clumps, but, of course, not with small and newly-planted specimens. This wave of flower and fruit-production seems likely to lead to *A. Simoni* and *P. nigra* being reared by the thousand from home-saved seed, and if so, the result may be that these two robust kinds will find their way into our woods and game-covers, and that they will naturalise themselves in warm localities and climates. Another result, if the various kinds flower and fruit in close proximity, may be that hybrids may be produced in our Bamboo-gardens, as is supposed to have been the case in Japan, China, and elsewhere in the past.

The whole subject is a very interesting one, and the views of others who are fond of these fresh and graceful evergreen grass-shrubs is much to be desired. The "dehiscence" of the fruiting branches, so as to allow the mature fruits to fall or sow themselves, should be noticed. The light crest of male or abortive flowers remains attached, and would be blown some distance during rough winds or gales. *F. W. Burbidge, Dublin.*

The Week's Work.

FRUITS UNDER GLASS.

By T. H. C.

Melon-house.—Where late Melons are appreciated, plants should now be planted to ensure ripe fruit during October. Provide a bottom-heat of 80° to 85°, a night temperature of 70°, and by day 10° to 15° more. If large pots are preferred to beds of soil, fill them firmly with a compost chiefly consisting of loam, and plunge in a hotbed of stable-manure and tree-leaves, and set the pots on pedestals of bricks. Let the Melon-house be thoroughly cleaned before putting fresh Melon-plants into it. The compost of a Melon-bed may consist of good loam, a small quantity of charred garden refuse, and mortar rubble, which form into hillocks 3 feet apart, on which put out the young plants when ready, making the soil firm round about them. A loose soil tends to make soft, long-jointed growths, susceptible to disease and to insect-pests. Apply water sparingly till the roots are running freely in the soil, and apply no manure before an even set of three fruits to a plant has been secured. Maintain moist conditions in the house, being guided in this matter by the weather, shorter days, and the smaller amount of sun-heat, remembering that much humidity does not tend to fruitfulness. Afford air in favourable weather, and close early with sun-heat whenever it can be done. Plants raised early in last month, which have been recently planted, should have the points of the main shoots pinched out when these have grown to within eighteen inches of the top of the trellis, and train the side growths thinly, stopping them at one joint beyond a fruit. While the fertilisation of the blooms is proceeding, afford a dry condition of the air with much ventilation. The degree of warmth at night may reach 70°, and by day 80° to 85°, with ventilation when the weather is favourable, reducing it as the sun declines, and closing with the thermometer at 90°. Syringe the plants once or twice a day, and maintain a moist condition of the air in the house.

The Cucumber.—Seeds may be sown about the middle of the month for raising plants for fruiting in the winter. In doing this place one sound seed $\frac{1}{2}$ inch deep in the centre of a 3-inch pot, in a mixture of loam and leaf-mould. Plunge the seed pots in a propagating pit in brisk bottom heat, and when the seedlings are got above the soil place the pots on a shelf close to the glass, and keep the temperature at 70°. Telegraph and Cardiff Castle are two capital varieties to sow now. Plants recently planted out should have the points of the bine pinched off when halfway up the trellis. Take measures against red-spider. In order to prolong the fruitfulness of plants, apply a top dressing, and repeat this when the roots appear again at the surface. Remove the old bine and such leaves as are not in a sound state or that may cause crowding, and

lay-in young shoots. Generally carry out the course that has been given with regard to Cucumber culture from time to time.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq. Dropmore, Maidenhead.

Peach and Nectarine trees.—Growth being very vigorous at about this date, the training of the leading shoots and the removal of all lateral shoots not needed must receive constant and regular attention. Any leading shoots taking the lead to the detriment of others should have the points pinched out, and in the case of very strong shoots, cut them back to the lowest sub-lateral shoot, and train-in that one as the leader. Only by adopting such means can a well-balanced tree be formed. The mid-season Peaches and Nectarines are now ripening, and the leaves which may be shading the fruits should be pushed on one side. Keep a sharp outlook for black aphid, dipping the points of the shoots where these pests most do congregate into a weak mixture of quassia extract and soapy water.

Strawberry beds.—Plants layered early in July are now ready for being taken up and planted. The recent rains have made the ground in good condition for planting, and if the same has been prepared for them, the work may proceed apace. Royal Sovereign, The Laxton, and James Veitch are varieties of strong growth, and the rooted runners should be planted 2½ feet apart each way, and for less robust growers 2 feet will afford sufficient space. Layering runners should terminate forthwith.

Hints on Work in General.—At the present time take note of trees which require to be root-pruned later on. With the light crops of fruit now very general in gardens and orchards, most trees are growing with extra vigour, but if root-pruning is generally practised no large number of fruit-trees will require this sort of attention, excepting such as have been newly planted and have not borne a crop. Apples on the Paradise and Doucin, and Pears on the Quince stocks may need root-pruning, as well as standard Apple-trees on the Crab, if not very aged. The early Apples, Irish Peach, Mr. Gladstone, and the red-and-white Juneating, should be protected from blackbirds and thrushes [this season, and if the number of fruits is few they may be put into muslin or scrim canvas bags, or a net can be put over the trees. These early varieties of Apples are better gathered straight from the trees as required for dessert, as the fruits lose flavour if stored.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE Bioton, Budleigh Salterton, Devonshire.

Freesias.—No greenhouse should be without these lovely Cape bulbs. Those having a stock should shake them out of their pots, if this be not already done, sorting out the finest bulbs, and placing six or eight in a 5-inch pot, covering them with an inch of soil, consisting of loam, leaf-soil, a small quantity of decayed manure, and enough sand to give porosity. Stand in a cold pit or frame facing north, and unless the soil is very dry, afford no water for a week or ten days, but cover the lights entirely with mats in preference to cocoa-nut fibre or leaf-soil, which, if not carefully watched, is liable to cripple the grass-like shoots as they push up. Apply very little water until actively growing. *Ixias* and *Sparaxis* require similar treatment as regards potting, which, however, need not be carried out till the middle of September. The smaller bulbs grow to flowering size if grown for one year with the remainder.

Lachenalias.—To many persons these plants appear a little bit formal, but they are nevertheless a useful class for blooming during the month of April or early in May. They respond to the same kind of treatment as that described above; or if it be intended to make up baskets for hanging, place them in pans or small boxes until growth is an inch long, then transfer them to the baskets, dibbling them fairly thick all round the sides, which should be first lined with moss to prevent the soil being washed out. The varieties *Nelsoni*, *pendula*, and *tricolor* are the best to grow.

Hyacinths, &c.—The early white Roman *Hyacinths* for flowering early in December require to be well rooted before they are introduced to the forcing-house, and should be potted up early in the present month, placing three or four bulbs in a 5-inch pot, or, if for cut flowers, plant in cutting boxes, transferring them to pots just as the flowers begin to expand, if that be thought necessary. In potting do not press the soil under the bulbs too firmly, or they will push themselves out. The White Italian forms a good succession and has a much finer spike, it is also very fragrant. The named varieties carry on the flowering well into the month of April if the bulbs are potted during the next two months. Among Tulips the earliest are the *Duc van Thol* varieties, and the following are much finer and force well—*Pottebakker* (white), *Belle Alliance*, *L'Immaculée*, *Cottage Maid*, *Goldfinch*, and *Montrésor*.

The Polyanthus Narcissus (Paper-white) should also receive early attention, while several of the *Daffodils* come early into flower with very little forcing, viz., *Princes*, *Ard Righ*, *Horsfieldi*, *Cynosure*, *Countess of Annesley*, and *Golden Spur*. Place the pots of bulbs behind a north wall or in a cold frame, and cover with fine coal-ashes or sifted leaf-soil.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Mexican Lælias.—*L. autumnalis*, *L. albida*, and *L. Gouldiana*, being sun-loving subjects, are the better for being grown in baskets, and hung up close to the roof of the house. These *Lælias* are injured by disturbance at the roots, and should not be turned out unless they have become overgrown. The old materials should then be replaced with new, if this be found necessary, when action at the root has commenced. Abundance of water at the root is necessary when the plants are in active growth, and syringing on the afternoons of bright days. Let the shading be removed early, and allow the temperature to rise considerably by sun-heat. The ventilators may be opened during the night, if the weather be warm and fine. If the *Lælia*-house is light and airy, these plants will form good, hard pseudo-bulbs and strong flower-spikes.

Lælia majalis is a beautiful species, but is difficult to grow and flower satisfactorily in gardens, owing to its natural habitat being at a great elevation above sea-level, and it requiring much cooler conditions than the foregoing plants; moreover, the plant should have the maximum of sunlight.

Lælia crispata is a pretty species now flowering in the Cattleya-house at Westonbirt. The plant is a rather shy flowerer in some gardens, which I attribute to affording it too much heat and an excess of water at the root, with the result that the plant is always growing, and never sufficiently matures its pseudo-bulbs. The plant requires but a small quantity of water at any season; and a light position in the warmest part of the Cattleya-house should be chosen for it. The most suitable season for repotting is early spring, and overpotting should be guarded against, pot-bound plants always affording the most flowers.

Cattleya El-dorado and *C. E. alba* are making a show at this season, this flower coming before the growths are fully developed, and new roots are often emitted before the latter stage is reached. Repotting and top-dressing when needed should then have attention, making use of well-drained pots or pans and the usual *Cattleya* compost. Keep the plants moist at the roots till the pseudo-bulbs are fully developed; then place the plant at the coolest part of the *Cattleya*-house for resting, and afford much less water.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Winter Onions.—A sowing should be made about August 11, and again a fortnight later, on a south border. A piece of ground should be selected for the first sowing which has been deeply dug and well dressed with soot and wool-

ashes; and if the land be heavy apply a heavy dressing of road-grit. Make the ground firm by trampling it evenly, then draw shallow seed-drills 10 or 12 inches apart, and sow evenly and thinly, covering the seeds with soil with the fork, finishing neatly with a rake. *Red Rocca*, *White Emperor*, and *White Leviathan* are good varieties for present sowing. The last-named is a splendid Onion for pulling early, and the bulbs, if left in the ground, will grow to a very large size. It is a bad keeper.

Carrots.—A sowing may be made in a frame or on a south border, sowing the seeds thinly in drills drawn at 10 inches apart. As soon as the seedlings are large enough to handle, they should be thinned at a little distance apart. *Veitch's Model*, *Sutton's Scarlet Intermediate*, and the *Scarlet Horn*, are suitable varieties for present sowing.

Potatoes.—Those that are ripe should be dug up without waiting for the haulm to die down. The continued wet weather has been most injurious to tubers fully grown, and it is better to lift them too early than to leave them any longer in the ground to be attacked by disease. Choose if possible a dry day for lifting.

Cauliflowers.—Heads are turning-in for use in abundance, and the heads should be covered by breaking the inner leaves over them. Keep a sharp look-out for caterpillars, and collect them by hand. Stir the ground well between succession plants, destroying weed and promoting growth.

Cardoons.—The stems take about ten weeks to blanch properly, and a commencement may now be made, tying up the leaf-stalks together temporarily, and wrapping and enclosing them in stiff brown-paper and hay-bands, finally banking-up the soil about the plants.

General Hints.—Ply the hoe carefully amongst all growing crops of all sorts. The recent rains have been a hindrance to the destruction of weeds, and when the hoe cannot be used, hand-weeding of the larger weeds must be adopted, or the growing crop of weeds will choke the crops and render much labour necessary later in the season.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Propagation of Bedding Plants.—These operations will now demand attention; first of all, zonal *Pelargoniums*, the stock of which should be thoroughly established in pots or boxes before winter sets in. Growth has been slow and uneven this summer owing to the unfavourable weather, but most of the plants will afford a cutting or two without injury to the beds, if care be taken in the operation. Let the cuttings be made from short-jointed, firm wood, and having trimmed them, insert them 3 inches apart and 1 inch deep in a well-drained, sandy mixture of the accumulations from the potting-bench, &c., to which some leaf-mould is added. Afford the cuttings water copiously, and put the boxes, &c., in a sunny position on a bottom impervious to worms. If they can be so placed that heavy rains may be warded off with spare lights, the result will be good; but until the cuttings have made roots but little water should be applied. In fine weather expose the cuttings to the air and to night dews. Other plants of which it will be advisable to take cuttings now, either to grow on or to use as stock plants for spring propagation, are *Petunias*, *Fuchsias*, *Tropeolums*, *Heliotropes*, *Gazanias*, and *Verbenas*. All of these may be very readily struck in frames placed on nearly spent hotbeds, the cutting-pots being half plunged in coal-ashes and kept close and shaded for a few days, syringing the cuttings once or twice a day.

Lilium candidum.—This, the old favourite "Madonna" Lily, will now be in the best condition for transplanting or, at least, for lifting. In the few cases where the plants have hitherto been disease-proof they may be transplanted at once, but where the disease has been prevalent let the bulbs be dried in the sun under glass for a few weeks; and as a further precaution dress the bulbs before planting with flowers-of-sulphur. Bulbs that are already well placed and growing satisfactorily should be left undisturbed.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the **EDITOR**, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, AUG. 8	{ Royal Botanical Society's Meeting.
MONDAY, AUG. 10	{ Royal Botanical Society's Annual Meeting.
TUESDAY, AUG. 11	—Half-Quarter Day.
WEDNESDAY, AUG. 12	{ Bishop's Stortford Horticultural Society's Show.
THURSDAY, AUG. 13	{ Taunton Dean Horticultural and Floral Society's Exhibition.

SALES FOR THE WEEK.

FRIDAY NEXT—

Great Sale of 18,030 Imported *Odontoglossum crispum*, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30 o'clock.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —63.2°.

ACTUAL TEMPERATURES:—

LONDON.—August 5 (6 P.M.): Max. 68°; Min. 53°.

August 6 (Noon): Slightly overcast at times; 58°.

PROVINCES.—August 5 (6 P.M.): Max. 65°, East Coast; Min. 53°, N.E. Scotland.

Cacti, &c.
(See
Supplementary
Illustration).

THE meeting of the Royal Horticultural Society in the Drill Hall, Buckingham Gate, Westminster, on Tuesday last, was the thinnest and most meagre of the season. Notwithstanding, it contained many features of interest, notably in the collections of Cacti which were specially invited. There were two collections in particular that attracted attention, viz., that of Messrs. CANNELL, of Swanley, and of Mr. ANKER, the agent for M. DE LAET, of Contich, whose nursery was lately noticed in our columns. Messrs. CANNELL showed large well-grown specimens, among which *Echinocactus Grussoni* was specially noticeable.

Two remarkable Mesembryanthemums, each with a pair of succulent green leaves (*M. Bolusii*, *M. truncatellum*), were remarkable from the close resemblance they would have in their native wilds to the rocks and stones among which they grow—a resemblance which would ensure them a certain measure of protection from browsing animals.

The densely-set spines of various Cacti and Euphorbias serve a similar purpose. The provision against drought in a dry and thirsty land is effected by the tough rind, which checks undue evaporation, and by the storage of water in the bloated stems. It is the recognition of these wonderful adaptations, no less than their variety and grotesque appearance, which give these

plants a special charm to some people. The ordinary observer is apt to say he does not like them because they do not grow, and change their aspect from day to day or month to month. Cactus lovers will, of course, not admit that, but it is only a matter of the seeing eye. When they are in flower, however, it will be universally admitted that not a single group of plants can produce a more gorgeous effect. "Gorgeous" is the only adjective that can adequately describe the crimson glories of many flowers of the genus *Cereus*, while among the Echinocacti and the delicately tinted Phyllocactus, there are many almost equally beautiful; many of the tiny Mamillarias also produce a striking effect by the brilliancy of their crimson berries, as was shown in some of the specimens on Tuesday last.

Among the whole group there is none more wonderful or more beautiful than the night-blooming *Cereus*, of which we give an illustration in our supplementary plate, taken, as we suppose, by the aid of the magnesium light. The snake-like stems are somewhat uncanny, but words are not adequate to describe the glories of the expanded flowers, with their outer segments of cinnamon-brown passing gradually through cream-colour to snow-white, and with crowds of delicate white, thread-like stamens moving gradually around the projecting style. And then the perfume! It is like the most fragrant of incense. If one saw but one flower in the year, and that flower were one of the night-blooming *Cereus*, it would remain as a vision of beauty and a wonder of wonders for many a long day. Of course, such a flower cannot be exhibited in the Drill Hall, and it is not of any use as a cut-flower for decorative purposes, and so we suppose many would pass it by; and we should not be very much surprised, judging from past experience in similar cases, if the Floral Committee ignored its title to a First-class Certificate, if it could be brought before them.

The Cacti by no means formed the only things worth seeing; there were Roses and Lilies, and Orchids and Poppies—a delightful exhibit; and there was a fine display of the magnificent *Senecio clivorum*, illustrated in our columns September 20, 1902; so that although the display was much smaller than we are accustomed to see, it was by no means deficient in interest.

Among the distinguished visitors were Sir THOMAS HANBURY, the owner of the noble garden at La Mortola, and Mr. J. H. HART, the well-known colonial botanist from Trinidad.

Mr. MILNER, who had been advertised to lecture on Landscape Gardening, was unfortunately unable to be present, to the great disappointment of many anxious to hear him.

THE IRISH GARDENERS' ASSOCIATION AND BENEVOLENT SOCIETY, DUBLIN.—The following is a copy of an address presented to H.M. the KING at Dublin Castle on July 22, 1903:—

To His Majesty EDWARD VII., King of Great Britain and Ireland, Emperor of India, &c.

May it please Your Majesty,—

We, on behalf of the Irish Gardeners' Association and Benevolent Society, beg to tender to Your Most Gracious Majesty, and to your illustrious Consort the QUEEN, our

most loyal and hearty welcome on this your first visit to Ireland since your Majesties' accession to the Throne.

Representing as we do a large body of your loyal subjects, who appreciate the great interest your Majesty takes in the welfare of those engaged in Horticultural pursuits, and in honouring with your Royal patronage the Gardeners' Royal Benevolent Institution and the Gardeners' Royal Orphan Fund of England, whose objects are of a similar character to our own, we feel that the present is a fitting opportunity to express our sincere gratitude and profound respect on this occasion of your visit to Dublin; and we humbly hope and pray that it may be your Majesty's gracious pleasure at some future date to honour with your illustrious patronage the Irish Gardeners' Association and Benevolent Society. Signed on behalf of the Society:—

President, F. W. BURRIDGE, M.A., M.R.I.A., V.M.H.

Vice-Presidents, JOHN J. EGAN, J.P., JAMES CAVANAGH, F. W. MOORE, A.L.S., M.R.I.A., V.M.H.

Hon. Secretary, WM. S. HALL.

ROYAL HORTICULTURAL SOCIETY: EXHIBITION OF BRITISH-GROWN FRUITS AND VEGETABLES, SEPTEMBER 29, 30, AND OCTOBER 1.—The Royal Horticultural Society will hold an exhibition of British-grown fruits and vegetables at Chiswick on September 29, 30, and October 1. The Prize Schedule is now ready, and contains in addition to the list of prizes an authoritative list of dessert and culinary Apples, Pears, and Plums. Special prizes are offered for preserved and bottled fruits. A conference on Vegetables will be held on Tuesday, September 29, at 2.30 P.M., Mr. G. BUNYARD, V.M.H., in the chair. The following gentlemen have been asked to read papers:—1. "On Cooking Vegetables," Dr. BONAVIA and Mr. JAMES HUDSON, V.M.H.; 2. "On Vegetables All the Year Round for a Private Family," Mr. W. H. DIVERS; 3. "On Vegetables for Exhibition," Mr. EDWIN BECKETT; 4. "On Vegetables for Market," Mr. W. POUPART. Any contributions to the conference will be welcomed. Donations towards the Prize Fund will be gratefully received by the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W., of whom copies of the Schedule can be obtained. Applicants should enclose a stamped envelope ready addressed to themselves.

"BOTANICAL MAGAZINE."—The August number contains coloured figures and descriptions of the following plants:—

Isoloma erianthum, Decaisne, t. 7,907.—A Gesneriaceous plant, native of Columbia, with shaggy hairs, lanceolate leaves, and loose clusters of irregularly-tubular flowers, yellow flushed with red, and each about 1½ inch long. The rhizome is covered with thick, fleshy, pinkish scales. It is a handsome stove plant. Cambridge Botanic Garden and Kew.

Sedum Stahlitii, Solms, t. 7,908.—A Mexican species, with thick, oblong leaves and a spreading cyme of yellow flowers.

Chloræa longibracteata, Lindley, t. 7,909.—A Chilean terrestrial Orchid, lately mentioned in our columns when speaking of Orchids at Kew.

Arisæma japonicum, Blume, t. 7,910.—A species with pedately divided leaves and green spathes striped with white. It flowered in the Alpine-house at Kew.

Cistanche violacea, Desfontaines, t. 7,911.—A plant allied to our Orobanches, and parasitic on various plants. It has a thick, fleshy stalk

covered with dense, overlapping, fleshy scales, and a terminal inflorescence of numerous violet-coloured flowers, like those of an *Orobanche*.

"FLORA OF HAMPSHIRE."—Mr. TOWNSEND is about to publish a second edition of his valuable *Flora of Hampshire*. No fewer than fifty additional species will be included, exclusive of Rubi.

MR. GODEFROY LEBEUF, of Paris, importer and grower of Orchids and of colonial and economical plants, and author of the *Orchidophile*, died on Sunday last, aged 51 years.

HOFRATH PROFESSOR CARL HAUSKNECHT.—This well-known botanist, founder and president of the Botanical Society of Thuringia, died at Weimar, July 7, in the sixty-third year of his age.

SCHOOL OF GARDENING.—At the Gardens, Regent's Park, Mr. C. BRINSLEY MORLEY, Vice-President, one afternoon of last week presented certificates to those students of the Royal Botanic Society's School of Practical Gardening who had successfully passed the Technical Education Board's examination in botany for intermediate scholarships. He congratulated Miss VEREALL on having obtained 276 marks out of a possible 300. Miss SADLER also had passed very creditably. In all thirteen certificates were awarded, of which six were taken by ladies.

THE ROTHAMSTED EXPERIMENTAL STATION.—The Station was visited, on July 31, by the Rt. Hon. The Earl of Onslow, G.C.M.G., President of the Board of Agriculture, who was accompanied by Sir T. H. Elliott, K.C.B., Secretary to the Board of Agriculture, and by Mr. Pakenham, his private secretary. Other gentlemen present included G. Lambert, Esq., M.P., A. H. Smith, Esq., M.P., G. B. Hudson, Esq., M.P., Martin J. Sutton, Esq., H. Hodge, Esq., Professor W. A. Tilden (President of the Chemical Society), and H. T. Hodgson, Esq. They were met by Sir Charles Lawes-Wittewronge, Bart., and by Sir John Evans, K.C.B., F.R.S., Sir Michael Foster, K.C.B., M.P., and Dr. Armstrong, LL.D., F.R.S., Members of the Lawes Trust Committee. Mr. A. D. Hall, M.A., the Director, conducted the visitors through the Laboratories and over the Experimental Plots. Other recent visitors to the Station have included a party of about twenty-five teachers from the Royal College of Science, South Kensington, accompanied by Professor J. B. Farmer, on July 17, and a small party, on July 21, from the Horticultural College, Swanley, Kent.

PERFUME IN PLANTS.—Messrs. CHARABOT & HERBERT show that the proportion of perfume-giving elements in a plant may be increased by the use of mineral manures, which at the same time facilitate transpiration, and thus diminish the amount of water in the plant. The conclusions are given in the *Comptes Rendus* for June 29.

PELORATE ANTIRRHINUM.—Mr. LINDSAY sends us from Edinburgh specimens of regular peloria in the common *Antirrhinum*. The flower-tube is straight, cylindrical, uniformly dilated at the base, but with no trace of spur; the limb shortly 5-lobed, regular, not in the least two-lipped, with a ring of white hairs in the throat, in which the pollen grains are entangled, so that an insect visiting the flower must needs brush some of them off and carry them away with it. The five stamens are of equal length. If any unfortunate student described this as a Solanaceous plant, and not one of the Scrophulariaceæ, he might, in the absence of ripe seeds, be acquitted. The abnormality, or rather the reversion to primitive normality, is so far fixed that seeds sent by Mr. LÖRENZ, of Erfurt, reproduce

this form of flowers without fail. This is a greater change than those relied on by Prof. DE VRIES in his mutation theory to substantiate the formation of new species in *Oenothera*, for here we have not merely different specific but ordinal characters developed. In any case, this peloric *Antirrhinum* may be invoked as evidence tending to prove that the irregular Scrophulariaceæ are the modified descendants of the regular Solanaceæ, just as *Lobelia*s are irregular forms of Campanulas, Orchids of Apostasias, and so forth.

EUCALYPTUS.—As if the species were not difficult enough to determine, Dr. TRABUT describes and figures, in the *Revue Horticole* for July 16, various plants, supposed with more or less reason to be of hybrid origin, viz., *E. Rameliana* ×, a cross between *E. botryoides* and *E. rostrata*, *E. gompho-cornuta* × between *E. gomphocephala* and *E. cornuta*; *E. Bourlieri* ×, a hybrid between *E. globulus* and an undetermined species. It is surmised that some of these hybrid forms may prove better adapted to the conditions of the Mediterranean climate under which they originated than the introduced species.

SOUTH AFRICAN ALOES, ETC.—We have received a copy of Dr. SCHÖNLAND's paper on the species of Aloe native to South Africa. Hitherto, our knowledge of these plants has been principally obtained from cultivated specimens, which differ in character from the wild forms. Moreover, the specimens being troublesome to preserve, the species are not so well represented in herbaria as they ought to be, and in many cases the exact locality where particular specimens have been obtained is not indicated. Some of the characteristics vanish or are much modified in the drying process, so that the careful study of living plants in their natural habitats or under natural conditions is greatly to be desired. We may here note that the specimens prepared for the Kew herbarium by Mr. N. E. BROWN, from garden plants, are of great excellence. Dr. SCHÖNLAND has undertaken the task of examining the wild species, and the first-fruits of his researches are published in the *Records of the Albany Museum*, vol. i., No. 1 (April, 1903). Botanists and cultivators alike will be under obligations to Dr. SCHÖNLAND, whose papers will, we hope, be widely circulated. Incidentally we may mention that the author has succeeded in procuring good herbarium specimens by soaking the plants for a few days in a strong solution of Cooper's Sheep-dip, and then pressing the specimens in the ordinary way, with frequent changes of paper.

PALMS IN THE RIVIERA.—M. ROBERTSON-PROSCHOWSKY, whose communications to our columns have been so much appreciated, has contributed to the *Bulletin of the Société Nationale d'Acclimatation de France* a paper on certain Palms adapted for cultivation in the open air in the climate of Nice. Among them he enumerates species of *Chamædorea*, which require partial shade. One species, *C. geonomiformis*, has produced fertile seeds. *Glaziova insignis* and *G. Martiana* (*Cocos Weddelliana*) are both hardy. Various species of *Howea* or *Kentia*, of *Kentiopsis*, also sustain the climate of Nice, as does *Livistona chinensis* (*Latania borbonica*), but must not be exposed to the full sun, as under those circumstances it is liable to be injured by frost. For an enumeration of the other species mentioned by M. PROSCHOWSKY we must refer to the original paper.

MEDICINAL PLANTS.—The following report on medicinal plants for 1903 has been received from Messrs. RANSOM & SON, Hitchin:—*Belladonna*.—The early plant was injured by the late frosts, and although it has now mostly recovered it is shorter than usual, and the quantity will be less than last year. *Henbane*.—The crops are very irregular this season. In places it is almost

a failure, while in other situations it is abundant. Altogether it appears to be more plentiful than last year. *Lavender*.—The plants are looking healthy, but the flowers are very irregular. With favourable weather for harvest the prospects should be fairly good. *Peppermint*.—This is not likely to be abundant, the plants being thin. *Rosemary*.—The plants are in fairly good condition, and the crop will probably be about up to the average. *Elaterium*.—The prospect is not so good as usual. The heavy rains, followed by the hot weather, have not been favourable for healthy growth. *Aconite*.—The plants are in good condition, and an average crop may be anticipated. *The Pharmaceutical Journal*.

INTERNATIONAL EXHIBITION IN MANCHESTER.—It has been determined to hold an international exhibition in Manchester in 1905. Land for the purpose is found available, and funds can be raised. The scope of the undertaking "will comprise all that is best in industries, arts and sciences, home, colonial and foreign," so that our friends are at least aiming high. At present the programme is, of course, general rather than detailed, and there seems good reason (and the Committee have no doubt) that it should be an unqualified success.

THE PRESERVATION OF FRUIT BY COLD; "DE LA CONSERVATION DES FRUITS PAR LES PROCÉDÉS BASÉS SUR L'EMPLOI DU FROID."—This is a little pamphlet written by M. LOISEAU, and published at 84 bis, Rue de Grenelle, Paris. It deals with the preservation of fruit in refrigerating chambers, a process now familiar to those concerned on this side of the Channel. M. LOISEAU asks: "Will the fruit so heated keep, and will the necessary expenditure be compensated for by the prices obtained in the market?" To both of these questions M. LOISEAU says, "Yes."

PROTEA MELLIFERA.—In the current number of the *Revue Horticole* is a coloured plate of this noble plant, known in this country, if at all, only under glass. The plant figured is growing in the open air in the nurseries of M. M. NABONNAND, between Cannes and Antibes. We are not aware whether any of the *Proteas* have been tried in the open in the Scilly Islands or other favoured corners of this country, but the inflorescence is so imposing that it would be worth making the trial. Under glass they have gone completely out of fashion, perhaps because they take up too much room, and are not of much use as "cut flowers."

CHRYSANTHEMUMS:—

ANTWERP.—The Royal Society of Horticulture and Agriculture of Antwerp will hold a great exhibition of Chrysanthemums in that city from the 14th to the 16th of November. The address of the Secretary is 9 Longue rue de l'hôpital.

LILLE.—A great Chrysanthemum Congress will be held at Lille from the 6th to 8th November next. Foreign exhibitors will be allowed to participate.

PLAGIARISM.—An Italian writer on the Chrysanthemum is alleged to have translated the work of M. LOCHON, the gardener to the Prince of Bulgaria, and to have affixed his own name to the translation, without mentioning that of the original author!

RUBBER TREES.—"The Jelutong tree (*Dyera Costulata*)," says Mr. Ridley in the *Agric. Bull. of the Straits and Federated Malay States*, March, "is one of the biggest trees of the Malay Peninsula, attaining a height of over 200 feet. It belongs to the order Apocynaceæ, and is allied to *Alstonia*. Its chief use appears to be for making a water-proofing mixture used in the walls, floors, and roofs of houses; and this use, which is of comparatively recent date, appears to be the cause of the very large demand for it of recent

years. It is used also in making all sorts of cheap rubber goods, especially rubber shoes, when mixed with other materials." A figure of the tree with botanical details is given in the publication above mentioned.

THE TRANSPORT OF PLANTS.—There are a few still left among us who can remember the introduction of the Wardian case, and its application to the transport of living plants from country to country as now so largely practised. Now comes the use of the electric light, concerning which the following extract from an article by Sir DANIEL MORRIS in the *Kew Bulletin*, 1891, will be read with interest:—

"Owing to the cold weather, the cases on board the *Atrato* were placed below in the main saloon. There was very little direct light in the day-time, but the question of warmth was, for the moment, of more importance than that of light. The weather during the whole of the first week continued very cold, and it was impossible to expose the plants on deck. Under these circumstances it was fortunate that the electric light, with which every part of the ship was supplied, was available to try an experiment of some interest. Although the plants received very little light during the day, they had a good supply of electric light during the night, and the particular plants that were more fully exposed to the electric light were afterwards found to be in a much better condition than the others. It is well known that plants will thrive under the influence of artificial light, but in this instance there was so little direct light available during the day that the plants had to depend almost entirely on the light they received at night. The Gambier plants are particularly sensitive as regards a diminution of light. In the present instance the plants were placed below on November 12, and were removed on deck on November 19. Here they were placed on a hatchway on the starboard side, and shaded from the direct rays of the sun by an awning. In order to make myself acquainted with the exact condition of the plants before they left my charge, the cases were opened on November 29, about thirty-six hours before arriving at Barbados. All the plants were in good order; a few, it is true, had lost their leaves, but the greater number were in excellent condition. The case in which the plants had suffered most was one of the two intended for the Jamaica gardens. This had been placed with its end towards the electric light, and, in consequence, had received less direct light than the others. The reports received respecting the Gambier plants on arriving at their destination were as follows:—Jamaica, December 1: 'Thirty-four plants in good order, eight in fair order, thirty-eight somewhat weak.' British Guiana, December 3: 'The plants arrived safely, all living.' Trinidad, December 17: 'All the plants arrived safely, the lower portion growing freely.' St. Vincent, December 19: 'Fifteen plants in good order, seven leafless ten dead'—these plants were over-carried by the *Esik* to Trinidad and La Guayra, and returned to St. Vincent ten days late; Dominica, November 28: 'The plants arrived in good condition.'

REMEDY FOR MOSQUITO-BITES.—Year by year we learn more of the appearance of that vile insect the mosquito in our country lanes and by river-banks, at one time the undisputed domain of the midge; and nostrils without end are advised for mitigating the discomfort of the sting. But why not checkmate the owner of the boring proboscis? The Entomologist for the State of New Jersey has placed on record the how to do it. The oil of citronella, distilled from *Andropogon nardus*, is the thing; the odour is not unpleasant, and the oil may be lightly applied to the skin of those parts of the body exposed to the conscienceless marauder, keeping it away from the eyes. The reporting entomologist has slept peacefully on an exposed verandah when all others were driven indoors to mosquito-curtains, &c. It has never failed during his collecting rambles—the enemy flies before it!

EDIBLE FUNGI.—With a wet autumn in prospect we may confidently expect a plentiful crop of fungi. Some of these we know to be "good-eating," whilst, as to others, the less we know of them in this particular aspect the better. Nevertheless it is all the more essential to be able to recognise them by sight. We have various works in this country, but none very recent, although the excellent figures by Mr. WORTHINGTON SMITH, in the Natural History Museum,

are invaluable to the student who is fortunate enough to be able to pay a visit to Cromwell Road. Those who have not that privilege, and especially those to whom the French language offers no bar, may like to hear of a small book, in which edible and poisonous fungi are arranged in a series of tables, so that they may easily be determined with a little care—the more so as numerous illustrations both plain and coloured are given. The book is compiled by M. CHARLES MANGET, and is published by J. B. BAILLIÈRE ET FILS, of Paris. It may be obtained at a reasonable price from Messrs. WILLIAMS & NORGATE, or other foreign booksellers.

THE CRICKET MATCH.—The Royal Horticultural Society's Fruit v. Floral Committees' cricket match, arranged to take place at Holland Park, Kensington, on the 8th inst., has, we learn, been postponed.

SALTAIRE, SHIPLEY, AND DISTRICT ROSE SOCIETY.—A society under the above designation has been formed, with headquarters at the Institute, Saltaire, for the encouragement of Rose-culture in Saltaire and neighbourhood. J. ROBERTS, J.P., is President; T. C. BRIDGES, Hon. Treasurer; and Mr. E. WRIGHT, Hon. Secretary. The first show was held in Saltaire Park on July 21 last, which, judging from the report that has reached us, was of a considerable degree of excellence, and well supported by some of the principal rosarians of the country. Doubtless as time goes on and local talent develops, the pick of the prizes for Roses will remain to a greater extent in and about Saltaire, instead of following the strong battalions, as on this occasion.

NEW CUCUMBER DISEASE.—During the past week we have been consulted by an extensive cultivator of Cucumbers relative to a disease which has made its appearance upon mature fruits, and threatens to occasion great loss, as it is not confined to a specimen or two here and there, but appears to be spreading over his crop. This disease forms dark depressed spots on the surface of the fruits in the first instance, which gradually enlarge and expand until they become quite black and convex like nodules, and crack either around or across, exposing the pale understratum. At first they are about a quarter or half an inch across, and finally extend to an inch or 2 inches, or become confluent. The surface is from the first mealy with the conidia, which are afterwards profuse, mixed with slender hyphæ, so as to impart a grey velvety appearance. The earliest conidia are more nearly globose than afterwards, from $10 \times 8\mu$ to $12 \times 8\mu$; becoming at length as much as $25 \times 8\mu$, and then usually uniseptate, but with scarcely any colour; occasionally two or three conidia are concatenate. The hyphæ are long and slender, half or two-thirds the diameter of the conidia, septate, simple, not constricted or nodulose, of a pale smoky colour, and very sparse in comparison to the conidia. The flesh of the fruit beneath the spots turns of a golden or tawny brown. The black elevated spots resemble large scabs, and the parasite which apparently causes the mischief has been called provisionally *Cladosporium scabies* (Cooke). But it is still under cultivation and observation in order to investigate its life-history. The mould is closely allied to the *Cladosporium* which attacks the leaves of the Tomato, but the black blotches resemble those of the *Macrosporium* on the Tomato fruits, except that they are not shining. It is strongly recommended that all diseased fruits be removed and destroyed at once, and those remaining should be sprayed to preserve them from attack. Condy's fluid (dilute) should be tried, as less likely to injure the fruits than copper solutions. Anyway, no effort should be spared at once to stamp out the pest. M. C. C.

THE VARIETIES OF CEANOOTHUS.

AMONG the numerous varieties of *Ceanothus* obtained by crossing *C. americanus* and *C. azureus* there are several that resemble the former of these two species in foliage, in their young glabrous shoots, the shortness of their inflorescence, and the white and rosy rather than distinctly blue colour of their flowers. The influence of the second species is sometimes seen in the pubescence, which the former lacks, and in the two very prominent lateral veins running almost parallel with the outline of the leaf-blade. But this last characteristic is not constant, and in the several species, hybrids, and varieties of the genus *Ceanothus*, all forms may be seen intermediate between those with branching veins and others with pseudo-parallel veins.

An easy means of distinguishing between varieties that are allied to one or other of these two types is desirable when making a selection for outdoor planting of those that are more or less hardy. It may be said that the forms fall into three distinct categories:—

1. The North American species, which are very hardy, even north of the United States (example, *C. americanus*).

2. Mexican species, which are half-hardy, generally bearing Parisian winters well and not suffering in severely cold weather (*C. azureus*).

3. Californian species, which are not hardy near Paris, although they are so in Brittany, the adjacent Normandy and the South (*C. divaricatus*, *C. papillosus*, *C. rigidus*).

It is useless to plant in gardens in central France species belonging to the third group. This is unfortunate, as the vegetation of *C. divaricatus* (to mention but one) is very rapid and fine; it is almost a tree, covered with blue flowers and charming tender green foliage, and is often seen thriving at Angers, where it only suffers in the most severe winters. The blue of the other Californian species (*C. rigidus*, *C. papillosus*, *C. cuneatus*, &c.) is still more intense and beautiful. All are tender.

But this is not so with hybrids of the first and second groups, which have provided splendid shrubs for our gardens, that in summer and autumn constantly re-bloom by means of axillary inflorescences that follow the terminal panicle. These charming thyrsoid racemes grow among pretty foliage, and show blue, violet, mauve, pink, and white shades in great variety. Here are the names of some of the best varieties:—

Blue.—Gloire de Versailles, Léon Simon, Bijou, Gloire de Plantières, Esther, Triomphe d'Angers, Sceptre d'Azur.

Pink, Lilac, or Violet.—Président Réveil, Gladiateur, Théodore Frœbel, Marie Simon, Le Géant (rose carmine).

White or Whitish.—Fendleri (a thorny species), albidus, corymbosus, americanus plenus.

The novelty, *C. Ciel de Provence* (figured in the *Revue Horticole*) at present belongs to the second group. It is derived from *C. americanus* and *C. azureus*, but resembles the latter more than the former. It is a splendid hybrid obtained by MM. Fabre, père et fils, nurserymen, of Bagnols-sur-Cèze (Gard). In their nurseries this plant surpasses all the other varieties in a large collection with which comparison is easy. For two years I have also grown it at Lacroix, and it has shown first-rate qualities, and has not ceased to flower all through the fine weather. Ed. André, in *Revue Horticole*, July 16, 1903, p. 332.

PLANT PORTRAITS.

GENETILLIS (DARWINIA) TULIPIFERA and G. FUCH-SIOIDES. *Revue de l'Horticulture Belge*, July.
ROSE ROSOMANES GRAVEREAUX. *Journal des Roses*, May. H.T., white flushed with pink (Souper X Notting).

ACER PLATANOIDES WITTMACKII. *Garten Flora*, July. A form with three to five lobed leaves; lobes lanceolate, central one much the largest; all green, with a golden-yellow margin.

TREES AND SHRUBS.

PRUNUS MAXIMOWICZII.

FROM Mr. Smith, of the Daisy Hill Nursery, Newry, the source whence so many rare and interesting plants have been distributed, we have received specimens in fruit of *Prunus Maximowiczii*. The tree is 25 feet in height, with branches in horizontal tiers, beset in spring with white flowers on the upper surface.

The leaves are about $1\frac{1}{2}$ inch long, on slender petioles not half the length of the blade. In shape the blades are obovate, tapering to the wedge-shaped base, somewhat coarsely toothed or crenate, dark-green above, paler beneath, with prominent pinnate venation, glabrous, except along the nerves on the under surface. The flowering shoots are short, with smaller leaves, and bear near the apex one or two slender, hairy peduncles. Sepals and petals deciduous. Drupes the size of small Peas, crimson. Stone with a prominent ridged suture.

We do not find the tree mentioned in the *Kew Hand-List*, nor in Köhne's *Deutsche Dendrologie*, from which we infer that the tree is not in general cultivation. It is mentioned as a native of Yezo (Japan) in Franchet & Savatier's *Enumeratio Plantarum . . . in Japonia, &c.*, i. (1875), p. 117.

CORIARIA JAPONICA.

From the Royal Gardens, Kew, we have received specimens of this shrub, which with its profuse scarlet berries is now very attractive. The berries are borne on slender stalks raceme-fashion, the racemes clustered along the sides of the four-sided branches in erect or ascending whorls. The leaves are nearly sessile, ovate, acute, three-nerved. The plant is figured in the *Botanical Magazine*, t. 7509.

AGAVE FILIFERA VAR. FILAMENTOSA.

MR. SHAND, of the Greaves Nurseries, Lancaster, sends us a photograph (see fig. 44) of this interesting species, which after a long delay has lately flowered in his nurseries. Mr. Shand's specimen has suffered some check to growth, by reason of which the spike is not quite so symmetrical as the one represented in our figure published on January 1, 1870. Ordinary greenhouse treatment is all that is required for this plant, but when it shows signs of blooming it must be removed to the open air, or the lights must be removed to give it space wherein to develop.

HOW PLANTS SCATTER THEIR SEEDS.

(Continued from p. 87.)

How do aquatic plants distribute their seeds? In the seed of the white Water Lily, that glorious Nymph of our ponds and rivers, a large bladder is formed between the two outermost coats of the seed, and this bladder enables the otherwise heavy seed to float on the water, and thus be carried away by wind or current from the parent plant. Eventually the coatings of the seed decay and it sinks into the mud at the bottom, where germination can take place. But they may be distributed in another way. Birds which peck open the fruits for the seeds, carry away some of the latter, which are viscid, on the feathers surrounding their bills. In the yellow Water Lily, the application of the bladder device is somewhat different, as in this plant the fruit splits into several sacs containing the seeds, which sacs then become in part filled with air, enabling them to float away: on their decay the heavy seeds sink to the bottom. In the Bogbean, the Flowering Rush, the great Water

Plantain, the Arrow-head, and in that pretty aquatic, so like a miniature Water-Lily both in leaf and flower, the Villarsia, all great ornaments of our ponds and streams, the fruits or seeds also contain aerated tissue, and some are, moreover, shining and oily, and, thus, by the aid of one or other of these two means, are capable of floating, although otherwise heavy enough to sink.

(Potamogeton), which so often form a carpet over the surface of lakes and ponds, are enclosed in tiny swollen drupelets which float easily on the water by means of the aerated tissue they contain. Our large Bladder-Sedges have swollen utricles enclosing their fruits, which, when these drop off into the water, cause them to float.

We have so far studied three interesting methods by which plants distribute their seeds, viz., through the agency of wind, of water, and by various automatic mechanisms.

AGENCY OF ANIMALS.

One other means remains to be noticed, and that not the least wonderful and interesting of all, viz., the agency of animals. Strange as it may seem to the uninitiated, many of our plants common in hedgerow, wood, and field rely entirely upon beasts and birds for the sowing of their seeds. We have seen the ingenious adaptations plants possess for utilising the visits of another class of animals, the insects, in the process of fertilisation of their flowers.

How do plants avail themselves of the higher animals in the task of distributing and sowing their seeds? In very different ways. In some of our common woodland and hedge plants the fruits, or parts immediately surrounding them are furnished with thick-set, stiff, hooked hairs. Any animal, as we may all observe, on brushing against them, without fail carries away on its fur, wool, or hair, numbers of these seed-vessels, which cling very tenaciously by means of their innumerable hooks. Some of the well-known plants possessing these structures are the Enchanter's Nightshade (*Circeia*) and Wood Sanicle (*Sanicula*) of our shady woods; the common Burdock of our road-sides, whose great fast-clinging burrs are too familiar; the Goose-grass or Cleavers (*Galium*), climbing by aid of the hooked hairs on its stems and leaves over every hedge; the Bur-Marigold (*Bidens*) of manure-heaps and ponds, the Hound's-Tongue (*Cynoglossum*), the wild Carrot (*Daucus*), the Bur-Parsley, the Hedge-Parsley, the common yellow Avens (*Geum*), and the yellow Agrimony (*Agrimonia*) of our hedge-sides. This method of seed-distribution appears to be one of the most efficient of all; for consider the long distances the fruits may thus be carried and distributed, and into what a variety of localities, before they are finally scratched, pulled, or washed off the animal's hide; and there is, moreover, no uncertainty in their being carried away when once an animal brushes up against the plant, for the fruits are bound to be detached and to cleave to the creature. This contrivance of hooked hairs will account for the great abundance of most of the plants possessing them; and, indeed, 10 per cent. of all flowering plants in the world are dispersed by this means.

Seeds of bog or water-plants lying in the mud at or near the water's edge are carried and dispersed in great numbers by birds either wading in the water or standing at the edge to drink, the seed-containing mud at such times clinging to their feet. Birds may by such means transport the seeds to great distances. The seeds of many common road-side or field weeds depend also largely upon this method for their distribution.

The Meadow Saffron (*Colchicum*), which beautifies the pastures of some of our counties in the autumn with its pink, Crocus-like flowers, has viscid seeds, which stick to the feet of the cows grazing amongst them, and thus get carried from pasture to pasture very efficiently.

The awns and bristles, also, of many of our common meadow Grasses are instrumental in attaching the grains to the hides of the animals which feed where they grow.

There is another method by which animals are enrolled in the service of seed-dispersal; and this



FIG. 44.—AGAVE FILIFERA VAR. FILAMENTOSA.

The seeds of the bright little Frog-bit (*Hydrocharis*), with its small white flowers and orbicular leaves, has mucilaginous cells in its outer coat, which, when the seeds come into contact with water, swell up greatly, and emit spiral threads which may possibly be the agents which prevent the seed's sinking immediately to the bottom. The seeds of our common Pond-weed

is, perhaps, the most interesting of all, not only on account of the way in which it is carried out, but because the plants adopting it add greatly to the autumnal beauty of every lane and wood and garden. I refer to the production of berries, sweet-tasting and exquisitely coloured. How many people really know the meaning and use of the wild berries they see in every hedge-side? I believe the majority imagine that they are there simply to make a pretty picture for our eyes, or to afford us food. But the book of the economy of Nature may be read otherwise. The brightly-coloured berries, whether red or black, or blue or yellow, or white, with their juicy palatable tissues, are formed in the autumn by the plants in order to attract animals of some kind, usually birds, which, by devouring them, carry off the seeds they deftly enclose, and eventually void the latter in some spot far from the parent plant. How wonderful is this co-operation between bird and plant, and the mutual benefit accruing therefrom to each being, so widely separated in the scale of life—as wonderful and interesting, indeed, as that existing between plant and insect for the work of fertilisation!

But how does the plant form its berries? There are many different kinds. The simplest is that such as we see produced by the Holly and the Deadly Nightshade (*Atropa*), for instance, where the ovary or incipient seed-vessel simply becomes fleshy in texture and sweet in taste, owing to the accumulation of a great quantity of sap in its cells containing a large amount of sugar and colouring matter in solution. Other instances of this type are afforded by the Gooseberry, the Currant, the Gueldres Rose (*Viburnum*), the Spindle (*Euonymus*), the Privet (*Ligustrum*). The fruit of the Blackberry and the Raspberry consists of great numbers of miniature drupes or stone-fruits united into a single whole, each one enclosing within its inner woody portion a single seed. The Cherry and Plum constitute a single such drupe on a large scale. In the Strawberry it is the upper swollen portion of the fruit-stalk, prolonged above the insertion of the petals and stamens, which assumes the fleshy, juicy character, embedded in which, all over its surface, are the tiny yellow seed-vessels or achenes, each enclosing a single seed. In the Rose, the Apple, the Pear, &c., it is the swollen portion of the fruit-stalk immediately below the calyx which constitutes the edible fruit, as hip or pome, and carries within its hollow receptacle the very numerous small seed-vessels or achenes, in the case of the Rose, and, in the case of the Apple tribe, the "core" or cartilaginous tissue of the ovary containing its numerous "pips" or seeds.

The dark Yew-tree furnishes for the birds very beautifully coloured red berries, contrasting well with its foliage. In this case, however, they are of quite a distinct type, for the seed is not enclosed in any seed-vessel or capsule, but is merely partially covered by an extra outer seed-coat, which develops only as the seed ripens, and at that period becomes soft and fleshy, and is known as the "aril." The uncovered seed is perceived inside. Where Yew-trees abound the seeds disgorged by the birds are very commonly met with on the rocks or walls around.

Such are the various types of "berry," which familiar and striking organ is simply the expression of the plant's successful efforts to perpetuate and distribute its species by means of the seeds which that "berry" contains; and these seeds, it may be noted, are adequately protected from the digestive juices of the bird's body by their tough outer coat, their germinating power being thus unaffected.

Among foreign plants there are often still more wonderful contrivances for the effectual dispersal of seeds; but in our own native flora we have seen that there is a sufficiently wide field of study for those who are interested in this, for the

organisms concerned, very important and far-reaching phenomenon.

The whole vegetable kingdom, in fact, is engaged in one vast competitive struggle, as if to determine what group, or genus, or species of plant shall most adequately fulfil that ancient command once given to man—"Be fruitful and multiply, and replenish the earth."

HOME CORRESPONDENCE.

GARDEN INSECTICIDES.—Please permit me to ask a question of the more observant of your fruit-growing readers. Have any of them noticed any injury to the crops of small fruits after using some of the newer insecticides the previous season? I mean in cases where no apparent injury to the foliage was seen at the time of using. I ask this in true faith, and in no sense with a view to injure the sale and use of what I still believe to be a very useful adjunct to any garden. In the early part of June, 1902, our Currant-trees (both black and red) were infested with green-fly. We decided to give them a dressing of quassia-mixture, according to instructions printed on kegs as sold. This had the effect of checking the fly, and beyond the fact that the fruit had a bitter taste when ripe, there was no injury seen to the trees at the time. This year, for the first time for thirty years, we have an almost entire failure of Currants, red and white ones in particular. I do not think the ungenial season is the entire cause, as there was very little show of blossom from the first. Tonight I was once again discussing this failure with our kitchen-garden man, who is an excellent workman, and has been here twenty-five years. He said it had come into his head that using that "stuff" last year might have had something to do with it. Hence this note. *Enquirer*, July 25. [We do not think quassia decoction would have any such effect, though it is conceivable some of the mineral poisons might check growth. ED.]

ROYAL HORTICULTURAL SOCIETIES.—How is it we hear so little of the doings of the Royal Botanic Society, Regent's Park, whilst sundry correspondents are constantly singing the praises of the doings of the Royal Horticultural Society, and just as often denouncing the Society's sins of omission and of commission? Whatever the Royal Botanic Society are doing, they seem to be doing in a quiet, philosophical sort of way, reminding one, if you will allow the comparison, of half-a-dozen bullocks grazing in a meadow; after having fed, they lie down, rest, and quietly chew their cud until this natural act is completed, then they get up and feed as industriously as before. The Royal Horticultural Society reminds one of a noisy field of grasshoppers, which would fain make believe by their din that theirs is the machinery or motive power by which the whole horticultural business of the world is driven. I am quite in sympathy with all this, but I want to know how it is we hear so little of the doings of the Royal Botanic Society. Might it not be also to their advantage to make a little more noise? Were I living in London I dare say I should, like most other horticulturists living there, feel interested as to whether the long-wished-for site of the new gardens of the Royal Horticultural Society should be placed north or south of the Thames; but surely we in the Midlands, and also those even more northerly situated, need not be knocked down with a brick if we express a desire to have a site for the new gardens found in some convenient place north of the Thames. The Royal Agricultural Society have wisely placed their permanent showyard north of the Thames. Might there not be some wisdom in the Royal Horticultural Society acting in a similar manner? As regards the new Hall, someone a little while ago took pains to calculate the superficial area, and, I believe, also pronounced it adequate for all purposes, and now we have it echoed that, after sinking £40,000 in bricks and mortar, the place will still be inadequate for the certainty of the Society's progressive development. This seems a pity, because at the time of its inception and exhibition of its plans there were enough voices of caution raised. When the fiat was sent out to proceed with the building, my own opinion was, and

I dare say it was that of a good many more, that there were one or two at the back of it with the secret all their own, who could see their way to the successful completion of the new Hall. If this was not the case, then I conclude there were some persons in the Council over-precipitate in coming to their conclusions, involving the Society in enormous cost in building a place of questionable utility to the Society after all. True, if it does not suit, the place may be sold, but then comes in the trite old saying, namely, that fools build and wise men occupy! *W. Miller, Berkswell.*

PACKING AND SELLING FRUITS AND VEGETABLES: COTTON-WOOL AND WOOD-WOOL.—Permit me to thank you most heartily for the appreciative reference to the above little work in last week's *Gardeners' Chronicle*. With what you say respecting cotton-wool I entirely agree, and on p. 53 this remark occurs:—"There are objections, however, to both moss and cotton-wool when soft ripe fruits are being packed, as the materials named are not sufficiently elastic." Further on it is said:—"A substance that has come into use in recent years, and which has been greatly improved, namely, wood-wool, is free from most of the defects characterising ordinary packing, and is superseding all other materials wherever it can be employed." Pardon my calling attention to this, but the value of wood-wool has been amply proved for many purposes. *R. Lewis Castle.*

STRAWBERRIES.—My experience of the Laxton Strawberry, is like that of Mr. Bunyard, that it is not up to expectations; however it may do better another season on two-year-old plants. Royal Sovereign, President, and Vicomtesse H. du Thury had unusually heavy crops; British Queen, a fair crop of good flavour; Countess, a heavy crop of good flavour; Trafalgar, a good crop, but the fruits rather deficient in flavour; Dr. Hogg never does well here, and was a poor crop. *J. Barclay, Epsom.*

ROSE ZEPHERIN DROUHIN.—I am very pleased to hear that the above lovely Rose is much better known than I thought it to be; but I fear some of the writers have not got the true thornless Rose, as, for instance, your correspondent M. L. Williams says its colour is bright crimson-red. This is not correct; the flowers are a beautiful soft rose-pink, quite distinct from any other Rose I know of; and I may state that this Rose is a very old one, and was well known by the monks of Italy and elsewhere nearly a century ago, and not, as "E. B." states, in 1868. I got my plants from Mr. Anthony Waterer, of the Knap Hill Nurseries; also I had a kind letter from Mr. Peter Veitch, who says he noticed this Rose in flower in France last year. The only Rose catalogue that mentions this plant is G. Bunyard & Co.'s, Maidstone; it is there spelt "Zephorin Droua," "colour beautiful clear cherry-rose"; but it is not there called the "thornless Rose." I would also write that Messrs. Turner, of Slough, mentioned this Rose to me last year when I paid them a visit. I am quite sure any real lovers of interesting old-fashioned Roses will not regret this thornless Rose being brought to their notice, and, as our Editor says, we shall be glad to know the correct way of spelling the name. *W. C. Leach.*

THE ORTHOGRAPHY OF SPECIFIC NAMES IN BOTANY.—It ought not to be a matter of indifference how the specific names of plants are written, but most amateurs seem to think it is so. I refer especially to the use of initial capitals. The general rule that initial capitals ought to be used with specific names when they are nouns substantive, or when they are obsolete generic names, is not always easy to apply without referring to some good botanical catalogue. But there is one detail about which botanists are not agreed amongst themselves. It has reference to proper names, and to adjectives derived from proper names. *Index Kewensis* and earlier authorities do not use an initial capital when the specific name is a geographical adjective, but use it when it is a personal adjective. The *Kew Hand-Lists*, published under the authority of the Director of Kew, treat both classes of adjectives alike, not using capitals in either case. This is certainly more logical and consistent, and as it is

approved at the national headquarters of botanical science, we may assume it to be correct. Here are examples:—We always wrote "*Crocus Tauri*" and "*Onosma tauricum*," &c.; but the old usage was "*Erigeron Roylei*," "*Inula Royleana*," &c.; new Kew usage, "*royleana*," &c. I ask, "Quid sequare, aut quem?" Will any objector to the change tell us why Kew is wrong? *C. Wolley Dod, Edge Hall, Malpas.*

MELONS AT LONGLEAT, WILTS.—For many years Longleat Gardens have been famous for Melons, which by successive gardeners have been grown on what is known as "the extension principle." The soil of Longleat seems to suit Melons in an extraordinary degree, for the highest state of perfection can be obtained with it alone. Fruits may be seen in almost every stage of growth, and this with no more effort than the usual fructification of the blossoms. Mr. Gandy confines himself to a very small selection of varieties. The one ripening at the time of a recent visit was Gunton Scarlet, a fruit of a useful size, well netted, and its flavour really excellent. The fact of the plants having made constant healthy growth would in a large measure account for the high quality in the fruit. An unrestricted root-run is afforded by enclosing the bed with a wall of loose brick, which, when necessary, may be taken down and the bed extended outward, the extra space being filled with fresh soil. This naturally induces new growth, assists the swelling fruits, and maintains the successive fruiting already referred to. It is no unusual thing to find plants with numbers of fruits varying from a dozen downward, and I have counted as many as eighteen fruits on a single plant in every stage of development. This is a feat by no means usual; indeed, it is beyond the capacity of the average gardener to adopt this desirable phase of Melon culture. The Longleat Melon-pits and houses are roomy and well heated, and in every way suited to the cultivation of Melons. But while this may be true, the slightest laxity of attention would reduce this ideal state to one strictly commonplace. In their growth and training the leader is taken up the roof unstopped until it reaches the limit allowed; lateral growths are taken along the wires horizontally until the roof-space is filled. Few plants are required—indeed, one plant may be made to fill the compartment in which it is planted. *W. S.*

HORTICULTURAL SCIENCE.—Some twenty or twenty-five years ago the late Mr. E. S. Dodwell, of Oxford, said to me, talking of horticultural journalism, "You may take as many or as few horticultural papers as you like, but the *Gardeners' Chronicle* must be one of them, as it stands pre-eminent in the attention it gives to horticultural science." I am glad to see from the leading article on July 25 that you have taken such a strong line on this matter, thus worthily keeping up the traditions of the *Gardeners' Chronicle*. I firmly believe that this question of horticultural science is vital to the future success of our craft, and I hope some movement on the lines you advocate will soon be made. *Florist.*

TRIALS OF VEGETABLES AND FLOWERS AT CHISWICK GARDENS.—The garden of the Royal Horticultural Society may not be a paragon of perfection, as regards soil, climatic, and atmospheric conditions, for the trial of the numerous samples of new varieties of vegetables and flowers sent there for trial. Of one thing, however, the senders may be perfectly certain, and that is that in planting and in the growth of the plants, each subject has a fair field and no favour. The lots on trial are planted on a piece of land that has been cultivated all over alike, and the after-cultivation in the case of each subject is exactly the same up to the time the crops are reported on by the Committee. Exceptions are sometimes taken to the awards given, and the decisions of the various Committees are occasionally adversely criticised. This is only natural, and quite right; and no one can find fault with fair and legitimate criticism, although I sometimes think that if the senders of samples for trial, and those who sometimes grumble at the decisions of the Committees, could see those bodies at work in the garden, adjudicating on the merits of the subjects that come under their notice, their opinion of the

value of the work done would be much enhanced. The Committees are large (I am speaking more particularly of the Fruit Committee), often consisting of from twelve to fifteen experts, brought together from many parts, some of them long distances, in order to place their services at the disposal of the Society and the gardening public. To show how their awards are safeguarded as regards their value, no awards can be granted unless there is a quorum of nine members present. It is difficult to conceive how any body of men can enter more fully or more minutely into the work to be done, or take more pains in coming to a just decision. Every point for and against every sample is thoroughly discussed, and an award is never given without having in its favour a substantial majority. Whether, however, the classification in planting might not be improved upon is an open question. For instance, in the case of Peas, early, mid-season, and late varieties are planted on the same date (about the middle of March), the rows mixed up in the quarters without discrimination as to the height of the haulm, earliness of podding, &c., some measuring not many inches, as others several feet; and all varieties are staked with sticks of the same height, and sown the same distance apart. A better way would surely be to plant the dwarf varieties, those of medium height, and the tall, each section apart. The varieties being new ones, some difficulty might be experienced in finding out their average heights; but this could be ascertained from those persons who send the seeds, who should be requested to furnish particulars as to height of haulm and earliness. Were this done in the future, comparisons would be easier, and judging generally facilitated. The value of a Pea does not centre wholly in its productiveness, quality, or earliness, but in its power of resisting drought, continuity of cropping, freedom from mildew, and its late-cropping qualities, which are likewise important factors. Sown all together at the same time, as is now the case, it is difficult to assess their proper value for use at various seasons. Classified as I have suggested, each in its section, whether early, mid-season, or late, a more correct judgment could be arrived at than by sowing all at the same time. Thus the early section could be sown in the month of February, the mid-season in March, and the late ones in May or June. *O. Thomas, Waldeck Road, Ealing.*

ROSA DEVONIENSIS.—More than fifty years have passed since first I saw thy face, and then, after lengthened journey by stage-wagon of some hundreds of miles from Exeter to Leeming Lane, yet thy flowers and lovely buds are still fresh in my memory! And to this day, after all the fine introductions, I know of no Tea Rose that can compare with *Devoniensis* when well done and in vigorous health. Your correspondent "R. D." I assume rightly or wrongly, is our old friend Mr. Richard Dean; and his opinion of this Rose as a plant of long life I can fully bear out. Some five years since I saw a plant at Holly Hale growing in a Vine-border which had been planted when the house was built. I should say about the time this Rose was brought out; the flowers were so large I did not at first recognise it. I have at present in one of my cool-houses a plant on its own roots, struck from a single eye or bud (Teas were, in my early years, mostly done in this way from half-ripe wood), planted thirty years ago. The plants in the early part of the year throw up strong shoots clustered with flowers, erect, and of the finest quality, substance and shape. They set me thinking that when old varieties of Roses are shown once again with good taste, with their own buds attached, which I hope to live to see, this Rose will again come to the front, instead of those too formal lines of huge Cabbage-shaped flowers, which have been disbudded so that one Rose to the stem remains, and the bloom is afterwards "tweezered" and the outer petals turned back over, showing the flower, giving it an unnatural character, and often prizes are awarded to such monstrosities. With still the same love for the Rose as when I visited the first National Rose Society's show held in the St. James' Hall, I have come to the conclusion that North and South could not meet on equal terms, because of the difference in time of the principal blooming. *William Boston.*

SOCIETIES.

ROYAL HORTICULTURAL.

AUGUST 4.—The meeting held on Tuesday last was one of the least interesting, and one at which the attendance of visitors was the lowest of the year so far. The entire exhibit was contained easily on three long tables.

Floral Committee.

Present: H. B. May, Esq. (in the Chair), C. T. Druery, J. Jennings, C. J. Salter, G. Reuthe, C. Dixon, J. A. Nix, C. E. Pearson, C. E. Shea, E. H. Jenkins, W. J. James, G. Nicholson, W. Howe, R. C. Notcutt, and G. Gordon.

Messrs. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, showed Ferns chiefly consisting of thirty-six species and varieties of *Nephrolepis* in large and small examples. Of the better known species we may name *Barteri*, *acuta*, *philippensis*, *elegans*, *recurvata*, *ensifolia*, *exaltata*, *furcans*, *edmontoniensis*, and *Duffii*. Others comprised *N. cordifolia*, *alata*, *neglecta*, *Bansei*, *rufescens acuminata*, *r. fimbriata affinis*, *pluma*, *exaltata multiceps*, *e. plumosa*, *Mayi*, *Lenziana*, &c. The firm showed besides these Ferns a group of Campanulas, inclusive of *C. Barrelieri* (of pendent habit), *C. gloriosa* (of erect growth), *C. isophylla Mayi* (trained in an erect form, as likewise drooping in its natural manner), *C. l. alba* and the blue-flowered type. Plants of *Nerium Oleander*, *rosea splendens*, having semi-double, bright rose-coloured flowers. Apparently the plants were but two years old from cuttings. For the entire exhibit a Silver-gilt Flora Medal was awarded.

MESSRS. R. & G. CUTHBERT, Southgate, Middlesex, had arranged a floor-group consisting entirely of white-flowered plants and cut bloom, the latter consisting of *Phlox Fiancée*, and the former of *Hydrangea paniculata grandiflora* of various heights up to 6 feet, and growing in pots; *Lilium lancifolium album*, and *Crimum Moorei*, each of which carried from two to four open blooms, all of which plants were in pots (Silver-gilt Flora Medal).

MESSRS. DOBBIE & CO., Nurserymen, Rothesay, N.B., had a beautiful exhibit of well-grown Pentstemons as cut bloom, and of which we may mention the following:—*Miss Willmott*, crimson; *Wm. Cuthbertson*, deep crimson, and throat of white—a finely-expanded flower; *A. Rose Thomson*, rosy-red; *Auguste Cain*, a crimson self; *Talma*, white and pink; *Mary Lindley*, rosy-purple with white throat; and *Le Prophète*, pink with white throat. The rest of the exhibit consisted of *Shirley Poppies*, *Poppies* white-feathered, *Ranunculus*-flowered, of several forms, sizes, and tints, *Carnation*-flowered, *Pæony*-flowered, &c. (Silver Banksian Medal).

MESSRS. W. BULL & SONS, King's Road, Chelsea, S.W., showed a group of *Dracæna Victoria*, leaf green with broad bands of creamy-white at the margin; likewise some small plants of *Licuala Muelleri* (Silver Banksian Medal).

MESSRS. PAUL & SON, The Old Nurseries, Cheshunt, exhibited cut Roses in bunches, consisting of many varieties culled from various sections. We remarked blooms of *Mrs. J. Laing*, still in good condition; *R. serratifolia* (China), *Gruss an Teplitz* (H.P.) *Royal Scarlet*, a single-flowered variety of a crimson colour; *Duke of Edinburgh*, *Lady Battersea* (H.T.), *Billiard et Barré* (H.T.), *Cheshunt Scarlet* (H.P.), very fair blooms of *Frau Karl Druschki* (H.P.), *Sir Rowland Hill*, one of the darkest-coloured Roses (H.P.); *Roger Lambert* (H.P.), crimson, the petals edged with white towards the tips; *White Lady* (H.T.), *Dorothy Perkins* (N.), *Rosa anemoneflora*, &c. (Silver Banksian Medal).

MESSRS. J. CHEAL & SONS, Lowfield Nurseries, Crawley, showed cut shoots flowering, and otherwise of hardy shrubs and trees, of which mention may be made of *Spiræa Fortunei alba*, with flat corymbs of white flowers; *S. Bumalda*, *S. B. superba*, *S. Nobleana*, *S. Anthony Waterer*, corymbs of a deep crimson coloured flower; *S. semperflorens*, *S. Billardieri*, &c.; various *Hypericums*, *Berberis*, *Ulmus Dampieri aurea*, *Quercus pedunculata nigra*, dark purple leaf; *Prunus Pissardi*, and several more. The firm likewise showed *Cactus*, *Pompon* and single-flowered *Dahlias* in some variety. (Silver Flora Medal).

MESSRS. H. CANNELL & SONS, Swanley, Kent, exhibited largely *Mammillaria*, *Echinocacti*, *Opuntias*, *Cereus*, *Echinocereus*, *Euphorbias*, *Echeverias*, and other succulents in large and small examples (Silver-gilt Banksian Medal). Mr. ANKER showed a similar but smaller collection.

MESSRS. J. VEITCH & SONS, Ltd., Royal Exotic Nursery, Chelsea, S.W., showed a number of *Lantana salviaefolia*, a plant previously shown. The flowers are

of a lilac colour arranged in corymbs $1\frac{1}{2}$ inch in diameter, the habit of growth is more decidedly erect and slender than that of ordinary *Lantanas*, and are abundantly floriferous; it is said to be a good bedder. The firm showed a showy *Fuchsia* with an unusually big white corolla striped with crimson. *Senecio clivorum*, with big corymbs of orange-coloured flowers 3 inches in diameter, a coarse showy plant for a moist place in the wild garden.

Messrs. THOS. CRIPPS & SON, Nurseries, Tunbridge Wells, showed a number of plants in 48's of *Disa grandiflora*, with one flower-stalk bearing from two to three blooms each (Silver Banksian Medal).

W. C. BULL, Esq., Rathlin, Ellington Road, Ramsgate, showed *Gladiolus* in six varieties possessing fine long spikes and unusually large flowers.

Awards.

FIRST-CLASS CERTIFICATE.

Nephrolepis Piersoni.—A species having stiff, almost erect, growing fronds of a light-green tint, and pinnae turned on their axes to the horizontal position, and thus giving rise to an appearance of great density. Shown by Mr. H. B. MAY, Dyson's Lane Nursery, Lower Edmonton.

Gladiolus Ellington Belle.—A creamy-white flower, the tint most pronounced in the interior of the throat. W. C. BULL, Esq., Rathlin, Ellington Road, Ramsgate.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), De B. Crawshaw, H. M. Pollett, N. C. Cookson, F. Wellesley, H. T. Pitt, E. Hill, G. F. Moore, J. W. Odell, W. Boxall, W. H. Young, J. Colman, H. Ballantine, and J. W. Potter.

There were four small groups staged, and various exhibits entered to go before the Committee.

J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), staged a group in which were good *Cypripedium* × *Wiertzianum*, C. × W. R. Lee, and other C. *Rothschildianum* crosses; also the famous *Lælio-Cattleya* × *Digbyano-purpurata* Edward VII., but scarcely so fine as when originally shown; a fine mass of *Cattleya superba* with two spikes; a good *Cypripedium callosum* Sanderæ, *Cattleya* × *Elvina* (Trianae × *Schilleriana*), and two unnamed hybrid *Cypripediums*.

Messrs. SANDER & SONS, St. Albans, secured a Silver Banksian Medal for a group consisting principally of hybrids, and including nine varieties of *Lælio-Cattleya* × *Martinetti*, the best of them being an improvement on the large rose-purple original form; also L.-C. × *Bletchleyensis*, the one having lilac and the other copper-tinted flowers with claret-coloured lip; a fine L.-C. × Henry Greenwood, L.-C. × Berthe Fournier, *Cattleya* × *Shakespeare* (Rex × *granulosa*), and some hybrid *Cypripediums*.

Messrs. T. CRIPPS & SON, Tunbridge Wells, showed a group of about thirty finely-bloomed plants of *Disa grandiflora* in comparatively small pots, but the flowers of very fine colour and size, to the number of three to four on a spike (Silver Banksian Medal).

Messrs. HUGH LOW & CO., Bush Hill Park, showed a small group, in which were noticed a good *Cattleya El-dorado Wallisii*, *Cypripedium* × *Rothschildo-superbiens*, C. × *Kimballianum*, C. *Rothschildianum*, *Cattleya Gaskelliana*, C. × Mary Gratrix (Harrisoniana × *granulosa*), *Cypripedium niveum*, &c.

Messrs. JAMES VEITCH & SONS, LTD., Chelsea, showed the very handsome *Cattleya* × *Atalanta superba* (see Awards), two plants of the pretty *Lælio-Cattleya* × *Issy* (L. *tenebrosa* × C. *Leopoldii*), with brownish-red sepals and petals and fine purple lip; and *Sophro-Cattleya* × *Saxa* (*Sophronitis grandiflora* × C. *Trianae*), a nicely-shaped, rose-tinted flower with a crimson blotch on the lip.

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), sent *Lælio-Cattleya* × *Kathleen*, a large flower with uniformly coloured dark-rose flowers having claret-coloured veining on the lip; L.-C. × Wm. Pitt (L. *pumila* × C. *Aclandiae*), a purplish flower with darker markings on the labellum; *Cattleya intricata* Rosslyn variety, *Masdevallia* × *Gairiana*, and *Sophro-Cattleya* × *Chamberlainiana*.

Sir FREDERICK WIGAN, Bart., Clare Lawn, East Sheen (gr., Mr. W. H. Young), showed *Cattleya* × Mrs. Pitt (Harrisoniana × *aurea*), with sepals and petals rosy-lilac, lip showing more of C. *Harrisoniana* and less of C. *aurea* than Mr. Pitt's original specimen, white tinged with rose and with a yellow disc.

W. P. BURKINSHAW, Esq., Hessle, Hull (gr., Mr. Barker), sent *Lælio-Cattleya* × *Ivernia* (L. *tenebrosa* ×

L.-C. *callistoglossa*), a noble form with sepals and petals purplish-rose, and intense purplish-crimson labellum; and *Cattleya Warscewiczii* "White Queen," which secured an Award.

Awards.

AWARD OF MERIT.

Cattleya Warscewiczii "White Queen," from W. P. BURKINSHAW, Esq., Hessle, Hull. Flowers large, sepals and petals white, lip as in a typical light form and with the usual large whitish-yellow blotches on each side of the disc, the front being mauve purple margined with lilac.

Cattleya × *Atalanta superba* (Leopoldii × *Warscewiczii*).—A very fine improvement on the original form, for which Messrs. VEITCH received a First-class Certificate in 1893. The large flowers were of light purplish-rose, with a veining of purple. Front of lip crimson-purple. The best of its class.

BOTANICAL CERTIFICATE.

Angreecum Rothschildianum.—From the Hon. WALTER ROTHSCHILD, M.P. A new species of a section entirely new to gardens, its section known only by dried specimens of A. *Galeandra*. Rehb. f., the only species with which it is comparable. Leaves broadly ovate, one half extended beyond the other, but rarely divided at the tip, about 6 inches long, 3 inches wide. Scape pendulous. Flowers white with a light-green band running down the middle of the sepals and petals, a rich emerald-green disc, and blackish-purple interior base to the lip, the final third of an inch of the spur of which is inflated, laterally compressed and recurved at right angles. The showy white-margined labellum is nearly an inch across, and the whole flower attractive. It is also delicately fragrant.

Fruit and Vegetable Committee.

Present: G. Bunyard, Esq. (in the chair); and Messrs. H. Balderson, J. Cheal, H. Esling, S. Mortimer, H. J. Wright, J. Jacques, G. Norman, J. Smith, and G. Wythes.

Mr. W. TAYLOR, Market Grower, Hampton, Middlesex, showed Peach *Libra*, raised from a fruit of Alexander, the male parent not known. The fruits are smaller than those of last year from the same tree (second year of fruiting). In good season the flavour is good. The fruit resembles Noblesse, except that it has a little more colour on the sunny side. (Award of Merit).

Dr. BONAVIA, Worthing, showed the Sultanieh Grape, a small-berried rose coloured, transparent Grape, the Sultana of the shops, with delicate bloom but not much flavour (Vote of Thanks).

HANDSWORTH AND DISTRICT HORTICULTURAL.

JULY 24, 25.—This was the nineteenth annual exhibition of a Society which continues the work of the Handsworth and Lozells Horticultural Society. When John Wilmore, Henry Pope, Samuel Brown, and Chas. Jas. Perry were leading exhibitors, Handsworth was a large village with many florists residing in it, but has since grown to be a municipal borough, and has in the most open position in the town a public park; wherein by the permission of the Borough Council, the show was held, six large tents being required to contain the exhibits. It is an exhibition which grows in importance every year, and bids fair to rival Wolverhampton. The entries were much more numerous than usual. The schedule of prizes included 151 classes, and they were grouped under several divisions.

PLANTS.

The first twenty-five classes of the schedule were "open," and in these were to be found the leading features of the exhibition. Groups arranged for effect and filling a space of 300 square feet, were very fine, and all followed the pattern now so generally observed of arranging the plants in a square, with a large central cone surmounted by an elegant Palm, with a smaller cone at each corner. On this occasion, Mr. J. Macdonald, gr. to G. H. KENDRICK, Esq., was placed 1st, with a rich and well-arranged lot of plants, defeating Mr. J. CYPHER, of Cheltenham, who was 2nd.

With twelve stove and greenhouse plants Mr. CYPHER was 1st, with some of the large specimen Palms and *Codiceums* he is in the habit of exhibiting. He had of flowering plants a magnificent *Stephanotis floribunda*, a *Bougainvillea* *Cypheri*, *Ixora salicifolia*, I. *coccinea*, &c.; Mr. W. VICUZE, Leamington, was a good 2nd. Some good bush-grown *Fuchsias* were staged; there were good specimen *Zonal Pelargoniums*, *Coleus*, *Caladiums*, &c., all generally well grown, bloomed and coloured, good prizes being offered in each case.

In the Gentlemen's Gardeners' and Amateurs' division there were classes for groups; and some very tasteful arrangements were set up. There were also classes

for stove and greenhouse plants, Ferns, *Fuchsias*, &c.; but the short time at our disposal, owing to the late hour at which judging commenced and the onerous duty of making the awards, prevented full details being gathered. Evidently there is a great deal of enthusiasm over plant-growing in the district.

FRUIT.

This was made a leading feature, and there was a valuable money prize, in addition to a Silver Challenge Cup, offered for a collection of not fewer than ten kinds, Pineapples excluded. Here Mr. Goodacre, gr. to the Earl of HARRINGTON, Elvaston, came to the fore in strong force, staging a representative collection of forty-two dishes, all very good, which included Black Hamburg, Canon Hall Muscat, and Madresfield Court Grapes, three varieties of Peaches, two of Nectarines, Beauty of Bath, Worcester Pearmain, Lady Sudeley, and one other Apple, Jules Guyot, and Clapp's Favourite Pears, Washington, Jefferson's, Kirk's, and Czar Plums, &c.; Mr. J. Jones, gr. to J. NESS, Esq., was 2nd with twelve dishes of good fruit.

With six bunches of Grapes, three black and three white, Mr. GOODACRE was again 1st; he had two of Muscat Hamburg (finely finished), two of Canon Hall Muscat, and two of Black Hamburg. Mr. W. A. Coates, gr. to Col. PLATT, was 2nd; he had three of Black Hamburg, two of Foster's Seedling, and one of White Muscat.

Fruit was also shown by gardeners in Division III., and hardy fruits by cottagers.

FLORAL DECORATIONS.

Chief among these was a table of 8 feet by 4 feet, and there was a large number of entries. The 1st prize was taken by the RANELAGH NURSERY CO., Leamington, who had a handsome arrangement with Orchids, *Francos*, and elegant foliage. Mr. C. Thomas, gr. to C. A. PALMER, Esq., was 2nd; this was very prettily arranged with pink Sweet Peas in combination with russet *Selaginella*, &c.

Cut Roses were a leading feature, handsome money prizes being offered. With twenty-four varieties Messrs. TOWNSEND & SONS, Worcester, were 1st; and the KING'S ACRE NURSERY CO., Hereford, 2nd, good blooms being staged. The class for twelve bunches of garden Roses was a fine feature. Mr. GEO. PRINCE, nurseryman, Oxford, came in 1st with fine bunches of *Grüss* an *Teplitz*, *Laurette* *Messimy*, *Bardon Job*, *Crimson Rambler*, *Souvenir d'un Ami*, Mrs. E. Mawley, &c.; Messrs. TOWNSEND & CO., were 2nd. Stands of twelve Teas were very finely shown by Mr. GEO. PRINCE and Messrs. TOWNSEND & SON, the prizes going in the order of their names.

CARNATIONS.

were also shown. The best twelve yellow ground or self came from Mr. R. C. CARTWRIGHT, King's Norton, who had some very fine flowers; Mr. A. R. BROWN, Handsworth, was 2nd; and these two exhibitors occupied the same positions with twelve white ground or self Carnations. In the Gardeners' and Amateurs' classes good blooms were shown by Messrs. J. MITCHELL and C. J. WHITE.

SWEET PEAS.

were a great feature, and they were numerously shown. The special prizes offered by Mr. R. Sydenham brought some very fine blooms from several sources.

VEGETABLES.

These productions were shown in good form in competition for special prizes offered by Messrs. Sutton & Sons, E. Webb & Sons, H. Simpson & Sons, Yates & Sons, and others. They were also largely shown by cottagers.

MISCELLANEOUS EXHIBITS.

were somewhat numerous, and they introduced very interesting features. Messrs. HEWITT & CO., Solihull, had a very imposing bank of cut flowers; Mr. W. B. CHILD, Acocks Green, had the same; and Messrs. DICKSONS, Ltd., of Chester. The KING'S ACRE NURSERY CO. had Roses; Mr. F. G. THOMPSON, a collection of Cacti; Messrs. YATES & CO., hardy flowers; Messrs. SIMPSON & SON, cut flowers; Mr. W. WATERS, a collection of *Violas*; Messrs. AUSTIN & CO. had cut flowers; Mr. T. B. GROVES the same; Messrs. WEBB & SONS had Sweet Peas and other flowers; Mr. J. BOSTON, J.P., Begonias; the RANELAGH NURSERY CO., a large group of their handsome new *Asparagus myricoladus*; Mr. W. WASTELL, soft-wooded plants, &c.

BOSTON HORTICULTURAL.

JULY 29, 30.—This old-established flower-show took place on the above date in the People's Park, South End, Boston, and with it was associated a horse-show and other accessories. It is a very popular county gathering, and being held on the market-day the agricultural fraternity is attracted to it in large numbers. Unfortunately the weather was very stormy early in the day. As a display of horticultural produce it was one of the best ever seen in Boston. One large tent was filled to overflowing; the neighbouring nurserymen and seedsmen also furnished miscellaneous exhibits.

Cut Roses occupied the first place in the schedule of prizes, and as the classes were open to all, Messrs. G. & W. BURCH, of Peterborough, were enabled to exhibit, and were awarded the 1st prize for twenty-four cut blooms, having a number of brilliant hybrid perpetuals among them; Mr. F. M. BRADLEY, Peterborough, was 2nd. With twelve varieties of Tea and Noisettes, three blooms of each, and also with twelve cut Roses, Messrs. BURCH were 1st.

Herbaceous and Bulbous Subjects are finely cultivated about Boston, and these were shown in imposing-looking bunches. In the Open class Messrs. ARTINDALE & SON, Nurserymen, Sheffield, came in 1st with a very good assortment from their nurseries a few miles out of Sheffield; Messrs. W. & J. BROWN, Nurserymen, Stamford, were 2nd; and the same exhibitors were 1st and 2nd with twelve bunches.

Messrs. ARTINDALE & SON were also 1st with twelve bunches of cut, stove, and greenhouse subjects, staging *Isora*, *Lapageria*, *Anthurium*, *Tuberose*, and suchlike in good form. Messrs. W. & J. BROWN were again 2nd. Zonal Pelargoniums in bunches were a good feature; and there was but one collection of Sweet Peas in the class for twenty-four bunches.

A class for twelve varieties of Carnations and Picotees brought some fine fancies and yellow-grounds from Messrs. ARTINDALE & SON, which were valuable object-lessons; they had particularly good Charles Martel, Alcinous, Mrs. E. Hambro', Pandelli Ralli, Stanley Wrightson, Perseus, Alberta (a charming yellow-ground Picotee), and Euryalus. Mr. F. M. BRADLEY came in a good 2nd.

Herbaceous Phloxes (some of the varieties very good), Pentstemons, and Lilies were excellent features.

There were classes for Dahlias; some fair blooms of the Cactus type were staged.

Floral decorations formed an attractive feature. There were two classes for tables 8 feet by 4 feet—one for married ladies only as competitors, the other for spinsters—and in both cases very pretty arrangements were staged. A valuable Silver Cup was offered for a Championship Bridal Bouquet, and it was won by Messrs. PERKINS & SON, of Coventry, who had a very handsome arrangement of white Orchids and Roses, *Pancratium*, &c. The Coventry firm were also 1st with an elaborate hand-bouquet in another class; Messrs. ARTINDALE & SON being 2nd. The best ladies' sprays in threes and the same number of button-holes came from Messrs. W. & J. BROWN.

A special Silver Medal, offered for the best and most attractive exhibit by the trade, was won by Messrs. ARTINDALE & SON. They had a background of bright foliaged plants, wreaths, crosses, and other floral decorations, cut flowers, and about 150 blooms of Carnations, chiefly yellow-grounds, in excellent character. In this class Messrs. W. & J. BROWN and F. M. BRADLEY had very good collections also.

Plants were represented by groups arranged for effect, Messrs. ARTINDALE & SON taking the 1st prize with a bright arrangement; Mr. W. A. HERVEY was 2nd. Mr. W. A. HERVEY had the best six stove and greenhouse plants, and also the best six Ferns; good specimen stove and greenhouse subjects were staged. *Coleus*, *Fuchsia*, *Begonias*, *Gloxinias*, and table plants were also shown.

The leading class for fruit was for six dishes. Here Mr. BARSON, gr. to Earl SANDWICH, Hinchbrook, was 1st, with Black Hamburg and Gros Maroc Grapes, Peaches, Nectarines, Figs, and Melon; Mr. J. DRAKES was 2nd with very good fruit. Mr. BARSON had the best two bunches of Black Hamburg Grapes. There were good Peaches and Nectarines.

In the Amateur division excellent produce was staged. *Tropaeolum speciosum* was finely shown in a collection of hardy flowers; Roses, Sweet Peas, &c., were also well represented. The vegetables shown by amateurs and cottagers were numerous and very good; the special prizes offered by Messrs. W. W. JOHNSON & SON, Ltd., and Mr. Geo. Wood Ingram, were keenly contended for.

In addition to the trade collections mentioned, Messrs. DOLBY BROS., Hope Nurseries, Boston, had plants, flowers, and fruit; Mr. A. W. EDWARDS, florist, Spalding, had floral decorations; Messrs. W. H. KILLINGWORTH & SON, West End, had plants; Messrs. H. H. SMALL & CO., Skirbeck, Boston, plants, Carnations; and Messrs. W. W. JOHNSON & SONS, Ltd., made a huge display with many bunches of fine Sweet Peas, hardy flowers, among which were many popular annuals and choice pedigree vegetables; also some new Sweet Peas, to three of which, viz., Eastern Queen (delicate primrose wings) and Standard, the latter pencilled with rosy-purple, and Elfrida, a charming striped variety, creamy-white, heavily pencilled with pale rose and rosy-purple awards were made.

NEWPORT AND COUNTY HORTICULTURAL.

JULY 29, 30.—A good show was held by this Society in King's High Fields, Newport, Monmouthshire, on the above dates, and although the season, in some respects has been unfavourable, the exhibits were generally (except that Mr. CARTER's groups and specimen plants were missed) equal to those of any preceding year.

Vegetables were excellent, and those staged by cottagers rivalled in quality those found in the other classes. Cut flowers were shown in considerable quantity, and of good quality; the table decorations were executed with much good taste; and fruit was up to the average. A tent was set apart for honey, and the classes were well filled. The show was opened on the first day by the President, the Right Hon. Lord TREDEGAR.

GROUPS OF PLANTS.

Collectively these consisted of well-grown plants, but those in the leading class were not the equals to what is usually observed at Newport. The smaller groups made up for this defect, and especially was this noticeable in the Begonia classes, which were excellent.

Group of Miscellaneous Plants, 121 square feet.—1st, Mr. Carpenter, gr. to W. J. BUCKLEY, Esq., Llanelly. This group consisted of *Cattleyas*, *Cannas*, *Campanulas*, *Celosias*, *Begonias*, &c., set off by *Palms*, *Codiaeums*, *Aralias*, *Ferns*, &c., edged with Maidenhair Fern. There were two such groups shown.

Group of Miscellaneous Plants, 50 square feet.—Three exhibitors arranged groups with much good taste, the leading one being particularly good in this respect; this came from Mr. Lewis, gr. to Dr. GARROD THOMAS, of Newport. Col. WALLACE (gr. to Mr. POWELL) was a good 2nd. For a group of 25 square feet, Mr. Wiggins, gr. to Mrs. WALLACE, Newport, was placed 1st amongst six exhibitors, all showing well.

Begonias arranged in 25 square feet.—There were three entries in this class that made a pretty feature, the plants being models of good culture, and finely flowered, and the varieties in the leading exhibit, which came from Messrs. HEATH & SON, of Cheltenham, were especially fine. The 2nd place was well won by Mr. Mitchell, gr. to W. J. ORDERS, Esq.; 3rd, Mr. Jones, gr. to R. WILLIAMS, Esq.

Six Ornamental Foliage Plants.—These were well shown, though the *Codiaeums* were lacking in colour. 1st, Mr. Duff, gr. to Mrs. WILLIAMS, Brynglas, Newport, who staged *Lantana borbonica*, *Phoenix rupicola*, *Kentia Forsteriana*, *Cycas revoluta*, and *Codiaeum Williamsii*; Mr. CARPENTER was a good 2nd.

Six Stove and Greenhouse Plants.—Mr. CARPENTER had no opposition in this class and staged fairly good subjects, of which *Bougainvillea glabra*, *Stephanotis floribunda*, *Allamanda grandiflora*, and *Clerodendron Balfourianum* were conspicuous.

Six Exotic Ferns.—Here Mr. DUFF was again the leading exhibitor, and staged large clean plants of old varieties, including a grand plant of *Davallia Mooreana*, and good specimens of *Woodwardia radicans* and *Adiantum cuneatum*. Mr. POWELL was a good 2nd, with similar well-known species.

Six *Achimenes* in distinct varieties brought six good lots, which, being arranged in a row as a margin to larger plants, made a showy display. Mr. POWELL, gr. to Col. WALLACE, Newport, was a good 1st with very large panfuls, including the varieties *grandiflora*, *Rose Queen*, *Scarlet Perfection*, and *Admiration*. Mr. Wiggins, gr. to Mrs. WALLACE, was placed 2nd, with equally good but smaller panfuls.

Four *Caladiums*.—With these, which brought four good sets, Mr. POWELL was again placed 1st with well-grown, large, bright plants. Mr. Wood, gr. to H. OAKLEY, Esq., Newport; and Mr. Watt, gr. to E. PHILLIPS, Esq., following in the order named.

Zonal Pelargoniums.—Mr. Giddens, gr. to S. DEAN, Esq., Newport, was a good lot for four zonal Pelargoniums, showing large beautifully-flowered specimens. Mr. WATT took the 2nd position amongst four exhibitors.

Six Dinner-table Plants.—These made a pretty feature, though many of the plants were lacking in colour. Mr. POWELL here was again 1st, and was closely followed by Mr. DAWSON and Mr. GIDDENS.

Miscellaneous.—*Coleus*, *Gloxinias*, and *Petunias*, six varieties in each class, were well shown.

CUT FLOWERS.

Twenty-four Hybrid Perpetual Roses.—There were two good stands of these staged, the 1st prize falling to Messrs. TOWNSEND & SON, of Worcester; Mr. STEPHEN TRESEDER, Cardiff, was a very close 2nd.

Teas, Twelve Blooms.—The above exhibitors were again placed 1st and 2nd respectively in the same order.

Herbaceous flowers were beautifully represented in a space 12 feet by 3 feet. The well-known exhibitors of these subjects, Messrs. STOKES & SON, of Trowbridge, who were 1st, had a beautiful assortment of choice things, and amongst them was observed a very fine variety of *Chrysanthemum*, named *Grande*; it is perfectly white, and has broad, slightly reflexed petals. These exhibitors also had their new *Campanula*, Hill-side Blue, which attracted much notice at Cardiff last week. Messrs. HEATH & SON also staged an effective choice collection, and were awarded 2nd prize.

Twelve Vases of Sweet Peas, &c.—Mr. BASHAM, Fair Oak Nursery, Basaleg, was the only exhibitor in this class, and staged a fine assortment of leading varieties, arranged with their own foliage. He was deservedly

awarded the 1st prize. Messrs. TUPLIN & SONS, Newton Abbott, was 1st for twelve Carnations in the Open class, and as usual staged a beautiful set of large blooms.

FRUIT.

Collections of Six Dishes, open.—There were only two collections in this class, the best coming from Brynglas (Mr. DUFF), who staged good dishes of Muscat of Alexandria and Black Hamburg Grapes, Early York Peaches, Governor Wood Cherries, Sutton's Scarlet Melon, &c.; Mr. Watts, gr. to C. D. PHILLIPS, Esq., was a close 2nd. Mr. Curtis, gr. to F. S. CARTWRIGHT, Esq., was 1st for Black Grapes, staging Madresfield Court. Mr. HIGGINS 1st for white varieties, with perfectly coloured Buckland Sweetwater. Mr. WATTS and Mr. Long, gr. to H. DAWSON, Esq., were respectively 1st and 2nd for Peaches, each staging Royal George. Mr. LONG came to the front for Nectarines, and staged a fine dish of Pitmaston Orange. Mr. WATTS was 1st for Gooseberries, with a fine dish of Whinham's Industry, and 1st for Cherries, with a good dish of Governor Wood. Mr. MITCHELL was 1st for two Melons, with nice fruits of Hero of Lockinge and The Countess.

Vegetables.—Messrs. DUFF, RICHARDS, and GIDDENS, were the leading exhibitors of collections of vegetables, for which Messrs. Sutton & Sons, Messrs. Garaway & Co., and Messrs. Wheeler & Son, offered money prizes.

Non-competitive Exhibits were largely and well shown. Mr. BASHAM, Fair Oak Nursery, staged about fifty dishes of hardy fruits, and fruit-trees of Peaches, Apples, and Gooseberries in pots, which carried good crops of fruit.

Messrs. GARAWAY & Co., Bristol, had a large group of stove and greenhouse plants in pots, consisting of many choice subjects. Messrs. TUPLIN & SONS, Newton Abbott, arranged a select collection of Dahlias (Cactus), Carnations, and Gladioli; Messrs. WHEELER & SON, Gloucester, a representative group of hardy herbaceous perennial flowers; Mr. E. JONES, Newport, *Begonias* and *Ferns*; Mr. G. H. THOMAS, Newport, floral crosses, wreaths, &c.; and Messrs. DENNIS, floral wreaths and hardy fruits.

"ST. IVES HORTICULTURAL.

JULY 30.—This was the twenty-eighth exhibition of this Society, which is an extremely popular one in the district, though on this occasion the weather proved very stormy, to the great disappointment of many from country districts. The show was held in some private grounds near the main street of the town.

In the Open division the best group of plants came from Mr. BARSON, The Gardens, Hinchbrook; Mr. E. A. EBSWORTH was 2nd, and Mr. JOHNSON, 3rd. The space allotted for each was too small to permit of much effect. Mr. EBSWORTH came 1st with six stove and greenhouse (a nice specimen of *Bougainvillea Sanderiana* was in his half-dozen), Mr. BARSON taking the 2nd prize. Some fairly good plants of *Coleus* were staged, the best six from Mr. W. WARNER. Tuberous-rooted *Begonias* were a very good feature indeed, Mr. G. D. DAY taking the 1st prize with well-grown plants of excellent quality; Mr. WARNER was a very good 2nd. Mr. WARNER had the best foliaged plant, and Mr. BARSON the best plant in bloom. The latter was 1st with six very pretty table plants; Mr. T. LOCKIE, The Gardens, Diddington Hall, St. Neots, was a close 2nd. Very good *Gloxinias* were shown by Mr. LOCKIE and by Mr. H. GOODMAN, the prizes being awarded in the order of their names. Balsams and *Streptocarpus* were also shown.

Cut flowers included Roses. The best twelve came from Mr. C. LAMPLUGH, Mr. R. M. COPLEY, 2nd, both showing good blooms for the season. Tea Roses were of poorer quality. Gladioli were shown in spikes of six. Mr. LOCKIE had the best six bunches of stove and greenhouse cut flowers; and Mr. H. GILLIAT was 2nd. Mr. G. D. DAY was 1st with twelve bunches of hardy flowers, and Mr. H. GOODMAN 2nd, both showing in good form.

Sweet Peas made a pretty feature. Mr. C. LAMPLUGH had the best twelve bunches, and Mr. EBSWORTH the best six bunches. Zonal Pelargoniums, both double and single, in trusses, were good; and some pretty varieties of the Ivy leaf type were staged. Carnations were also shown in bunches.

Some eighty-one classes, including a few for wild flowers shown by children, also for home-made bread and honey, composed the Cottagers' division. There were plants for windows (the best hanging basket contained a well-grown example of *Asparagus Sprengeri*; *Campanula isophylla alba*, well grown and bloomed, was much in evidence); also for cut flowers and vegetables, the latter very good indeed; while 102 Classes were set apart for amateurs, who showed in good form throughout, and especially in the case of their vegetables.

Special prizes were offered for six dishes of vegetables by Messrs. Sutton & Sons, Mr. LOCKIE taking the 1st prize with a well-balanced collection; Mr. BARSON taking the 2nd prize with a collection only just inferior. Mr. BARSON took the first of the special prizes offered by Messrs. Webb & Sons for a collection of six dishes; Mr. C. H. COOTE being 2nd. Mrs. JOHNSON was the only exhibitor for Messrs. Daniels Bros.

special prizes. In the case of those offered by Messrs. Wood & Ingram (J. E. Perkins), Huntingdon, for a collection of eight varieties, Mr. LOCKIE was 1st with good produce; and Mr. G. D. DAY, 2nd.

Miscellaneous collections of plants, cut flowers, &c., were shown by Messrs. WOOD & INGRAM; Roses, Carnations, &c., Messrs. G. & W. BURCH, Peterborough; Roses, Messrs. W. & J. BROWN, Stamford, and Messrs. WOOD & INGRAM, Huntingdon.

BRISTOL & DISTRICT GARDENERS' MUTUAL IMPROVEMENT.

JULY 30—By the invitation of the Rev. G. F. Whidborne, this Society held its monthly meeting at the Priory, Westbury-on-Trym, on the above date. About sixty members were entertained at tea by Mr. Whidborne, after which the company was afforded the opportunity of viewing the picturesque grounds and greenhouses. The greenhouses were much admired, especially a corridor wall 100 feet long and 30 feet high, covered with Zonal Pelargoniums, which is certainly a sight not seen every day. These were planted thirty years ago, and have thriven wonderfully, and at the present date they form a mass of flowers.

The visitors having gazed on the chief features of the garden, adjourned to a room in the garden, and proceeded with their meeting, when Mr. J. T. Curtis (gr., to Mr. W. HOWELL DAVIS) read an excellent paper on *Eucharis grandiflora*, he being the successful competitor for a prize offered by Messrs. Parker & Sons for the best essay on the subject. Mr. Whidborne then presented five Royal Horticultural Society Medals for five members for regular attendance.

ABBEY PARK FLOWER-SHOW, LEICESTER.

AUGUST 4, 5—This is one of the few purely municipal flower-shows held in the kingdom, as it was founded and supported by the Corporation of Leicester for the benefit of the townspeople; and any balance remaining over after all expenses are paid is devoted to providing music in the public parks. A very fine exhibition indeed was provided on this occasion; it was said to be the best held since the present series was established eighteen years ago. The weather on the opening day which had a rainy appearance in the morning, became brilliantly fine, and there was an enormous attendance. The Abbey Park was seen at its best, the bedding-out arrangements were excellent, the ornamental and sub-tropical portion very fine, doing great credit to Mr. John Burn, the superintendent.

PLANTS

may be said to play a minor part at the Abbey Park shows. There was a class for a group of 180 feet, for which Mr. JAMES CYPHER, Cheltenham, took the 1st prize with one of those elaborate arrangements he is in the habit of setting up, rich in flowering and foliage plants alike. Mr. THOMPSON, Littleover, Derby, came 2nd with a charming group; and Mr. W. FINCH, Coventry, was 3rd. With six stove and greenhouse plants Mr. FINCH came 1st, having three in flower and three foliage; Mr. H. Blakeway, gr. to Sir A. MUNTZ, Bt., Rugby, was 2nd. Mr. Blakeway had the best six Ferns, staging well-grown specimens in excellent character; and Mr. H. ROGERS was 2nd. The best specimen plant in bloom was *Bougainvillea Sanderiana* from Mr. FINCH.

CUT FLOWERS.

Roses are always a leading feature at Leicester, and they were pre-eminently so on this occasion. It was quite a field day for Messrs. A. DICKSON & SON, Newtownards, Belfast, for they won all the leading prizes. With thirty-six distinct varieties the Newtownards firm were an easy 1st. This stand contained a large, full, fine-petalled and brilliant H. Tea named George Dickson, a superb back-row flower with something of the bright hue of *Liberly*. This was selected as the best Rose in the show, and it created quite a sensation among the rosarians present. Messrs. D. & W. CROLL, nurserymen, Dundee, came 2nd with some very good blooms; and Messrs. HARKNESS & CO., Hitchin, were 3rd. Messrs. DICKSON & SON were 1st with remarkably good twenty-four blooms; 2nd, Mr. J. BARROW, florist, Leicester; and 3rd, Messrs. HARKNESS & CO. With twelve Teas, Messrs. DICKSON & SON carried off another 1st prize; Messrs. D. & W. CROLL were 2nd; and Messrs. HARKNESS & CO., 3rd.

The best twelve blooms of one variety were from Messrs. DICKSON & SONS, and Messrs. JARMAN & CO., Nurserymen, Chard.

The best twelve Teas of one variety were Mrs. E. Mawley, from Messrs. DICKSON & SONS; Messrs. CROLL were 2nd with the same variety, and Messrs. HARKNESS & CO. 3rd with *White Maman Cochet*.

Roses were also shown by gardeners and amateurs, and in several classes very good blooms for the season were staged.

Begonia blooms in the class for twenty-four doubles, as well as for that number of singles, were finely shown by Messrs. BLACKMORE & LANGDON, Twerton Nursery,

Bath; Messrs. JARMAN & CO. were 2nd with doubles; and Mr. C. BURDETT, Great Bowdon, with singles.

There was an excellent display of Carnations of all types, and some very good blooms were shown by amateurs also. The best twelve white-ground Carnations came from Messrs. THOMSON & CO., Nurserymen, Birmingham; they were also 1st with twelve blooms of white-ground Picotees.

Mr. G. RUDD, Cotteridge, was 1st with twelve excellent blooms of yellow-grounds, and also with twelve blooms of selfs; Messrs. THOMSON & CO. being 2nd in both classes. Single blooms were also shown in three classes.

Hardy Annuals in collections of twelve bunches made an interesting feature. Mr. M. FIRTH had the best.

Mr. BLAKEWAY came in 1st with twelve bunches of stove and greenhouse cut-flowers, showing in excellent form. Single Zonal Pelargoniums, Fancy Pansies, Violas, Show and Cactus Dahlias were in good form.

The collection of twelve bunches of hardy herbaceous and bulbous flowers from Mr. W. B. CHILD, Acoek's Green, which gained the 1st prize, was very fine indeed.

FRUIT.

was so good that Mr. Owen Thomas, who was one of the judges, spoke of it in the highest praise.

With eight dishes, in which three varieties of Grapes were permitted, Mr. J. H. GOODACRE, The Gardens, Elvaston Castle, Derby, was 1st, having very fine Black Hamburgh, Muscat of Alexandria, and Madresfield Court Grapes; Barrington Peaches, Elruge Nectarines, Figs, Melon, and Queen Pine. 2nd Mr. J. READ, The Gardens, Brethby Park, Chesterfield, with Buckland Sweetwater and Black Hamburgh Grapes, Peaches, Nectarines, Plums, &c.

In another class for eight dishes, limited to two varieties of Grapes, Mr. GOODACRE again came in an excellent 1st with Black Hamburgh and Muscat of Alexandria Grapes, Raymacker Peaches, Elruge Nectarines, Dr. Jules Guyot Pears, Lady Sudeley Apples (both very fine), splendid Negro Largo Figs, &c. 2nd Mr. J. Read; and in this, as in the former class, none of his fruit was named, despite the requirement of the schedule to that effect.

The best collection of four varieties of Grapes, two bunches of each, Mr. GOODACRE came in 1st with very fine examples; he had Madresfield Court, Muscat of Alexandria, and Muscat Hamburgh, the latter finely finished; Mr. J. READ came 2nd, his best bunches were Muscat of Alexandria and Madresfield Court.

With two superb bunches of Black Hamburgh Grapes, Mr. GOODACRE again came 1st; Mr. J. SWANWICK, Nottingham, was 2nd. Mr. GOODACRE was also 1st with two very fine bunches of Muscat of Alexandria; Mr. W. DUNCAN, Bosworth Hall Gardens, Rugby, coming 2nd.

With two finely finished bunches of Muscat Hambro' in the class for any other black, Mr. GOODACRE was 1st, Mr. DUNCAN coming 2nd with Madresfield Court.

Mr. H. BLAKEWAY came in 1st with a dish of Peaches, and he was also 1st with Nectarines; Mr. GOODACRE taking the 2nd prizes in both classes.

Melons were shown in two classes, and also Cherries. Mr. GOODACRE taking the 1st prizes in both. Gooseberries were numerous and fine. There were excellent Apples and Plums from Elvaston.

Currants were very good, white, red, and black. Mr. J. HUDSON had the best twelve Tomatos; and Mr. GOODACRE was 2nd, both very fine.

VEGETABLES

were in fine character, and numerous shown by all classes of exhibitors. In the open class for twelve dishes, Mr. J. HUDSON exhibited finely; Mr. J. READ was a good 2nd. Potatoes shown in pairs of dishes. Cucumbers, Vegetable-Marrows, Peas, Broad Beans (both Windsors and Longpods), Onions (spring-sown and autumn-sown), short and long Carrots, Turnips, and Cauliflowers, were all good.

The Cottagers had a very fine display in the large tent, the task of judging was a very onerous one. In addition, special prizes were offered by Messrs. Sutton & Sons, Reading, for six kinds of vegetables; Messrs. Harrison & Sons, seed merchants, for ten dishes, and also for Sweet Peas; Mr. Robert Sydenham, Birmingham, for Sweet Peas; Mr. R. Pringle, seedsman, Leicester, also for ten varieties of vegetables; Messrs. Yarde & Co., seedsman, Northampton, for Sweet Peas and Antirrhinums, &c. All these afforded interesting features.

MISCELLANEOUS EXHIBITS.

Miscellaneous exhibits introduced many features of popular interest, and could they have been gathered together would have formed an exhibition of themselves. Gold Medals were awarded to Mr. W. BENTLEY, florist, Leicester, for an extensive collection of very fine bunches of Roses staged with great taste; to Messrs. BLACKMORE & LANGDON, Twerton Nursery, Bath, for one of those superb collections of cut single and double *Begonias* they are in the habit of staging; to Mr. W. B. CHILD, Acoek's Green, Birmingham, for a grand bank of hardy flowers; to Messrs. W. & J. BROWN, nurserymen, Stamford, for a collection of plants which included *Verbena Miss Willmott* in excellent character; and to Mr. F. M. BRADLEY, nurseryman, Peterborough, for Sweet Peas, Carnations,

&c., including some charming floral decorations. Silver Medals were awarded to Mr. CARNALL, Lower Road, Leicester, for decorations, various plants, cut flowers, &c.; Mr. C. HOLDEN, florist, Hinckley, for Sweet Peas in excellent character; to Mr. CHAS. WARNER, The Abbey, Leicester, for Roses; to Mr. H. DEVERILL, Banbury, for Zonal Pelargoniums and hardy flowers; to Messrs. JARMAN & CO., nurserymen, Chard, for Roses, Sweet Peas, &c.; to Mr. W. L. PATTISON, Shrewsbury, for Violas; to Messrs. HARRISON & SON, seed merchants, Leicester, for plants, hardy flowers, including Sweet Peas, &c.; to Mr. J. BARROW, Leicester, for bunches of charming Roses, &c.; to THE RANELAGH NURSERY COMPANY, Leamington, for a group of *Asparagus myriocladius*, to which a Certificate of Merit was also awarded; and to Mrs. HODGKINS, Didsbury, Manchester, for illustrations of vegetable anatomy.

A Silver Medal was awarded to Mr. W. FINCH, Coventry, for a very fine specimen of *Ixora Williamsii*; and Certificates of Merit to Messrs. W. W. JOHNSON & SON, seed merchants, Boston, for Sweet Peas—*Gladys Deal* (delicate lavender-blue, of excellent form) and *Elfrida* (cream-ground striped with rosy-crimson).

TRADE NOTICE.

A PUPIL of the School of Horticulture at Ghent is anxious to work for two months (August and September) in some nursery near London. He would require board and lodging, but no salary. The Director gives him a high character for industry and competence. Address to the Director of the School of Horticulture, Ghent.

CULTURAL MEMORANDA.

THE PIMELEA.

THE *Pimelea* is a hard-wooded, greenhouse plant, free-growing and compact habited, and produces nice flower-heads from the points of the shoots. There are about half-a-dozen varieties of the *Pimelea* in cultivation, the most meritorious of these being *P. spectabilis rosea*, which is a robust grower, yielding in May and June heads of flowers, white and flushed with purple-rose, nearly as large as those of the *Guelldres Rose*. *P. Hendersoni* is more erect in growth than the preceding variety, the individual shoots being crowned with smaller but very beautiful pink flowers in May and June; but the date of flowering may and is frequently retarded until August for exhibition purposes.

Cuttings taken off after the plants have gone out of flower, and inserted round the edge of efficiently crocked 3-inch pots filled to the rim with fine peat, this being pressed quite firm and surfaced with silver-sand, watered through a fine rose, and then placed under a hand-light or bell-glass in the greenhouse, will form roots in due time. The soil should be kept uniformly moist. Pot singly into small pots (72's), using fine peat as before, with a little silver-sand incorporated therewith as a rooting medium, making this moderately firm in potting. Return the plants to the hand-light, water, and shade from sunshine for a few days until the roots have taken to the soil, when it should be dispensed with altogether, and the plants afforded a position near the glass. As the pots become fairly filled with roots, shift into larger ones—say, 3 inches, 4½ inches, and 6 inches in diameter, these being the most useful sizes for decorative purposes. Pots from 10 to 12 inches in diameter will be large enough for specimen plants. Coarser, that is more lumpy, peat should be employed in each additional shift of the plants into larger pots, this being rammed quite firm between the balls and side of the pots, as well as on top, with flat and round blunt-ended rammers in potting, as all hard-wooded plants do better in firm soil. The young plants should be pinched to induce them to branch, and with the same object in view they should be cut back after they have gone out of flower. H. W. W.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period July 26 to August 1, 1903. Height above sea-level 24 feet.

JULY 26 TO AUGUST 1.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				RAINFALL.	TEMPERA- TURE OF THE SOIL at 9A.M.				LOWEST TEMPERATURE ON GRASS.
		At 9A.M.		DAY.	NIGHT.		At 1-foot deep.	At 2-foot deep.	At 4-foot deep.		
		Dry Bulb.	Wet Bulb.								
		deg.	deg.	deg.	deg.		ins.	deg.	deg.	deg.	
SUN. 26	S.W.	61.2	60.4	70.2	57.8	0.15	63.0	61.0	58.4	56.9	
MON. 27	S.W.	62.3	57.0	63.5	46.2	20.1	56.2	61.0	58.4	43.9	
TUES. 28	S.W.	61.2	57.2	64.6	55.2	20.27	61.9	60.8	58.4	47.7	
WED. 29	S.W.	58.2	56.0	66.4	55.3	0.39	61.2	60.8	58.4	49.5	
THU. 30	S.W.	60.7	55.9	66.7	51.9	0.02	61.5	60.8	58.4	44.6	
FRI. 31	W.N.W.	56.7	52.5	62.4	53.9	...	61.2	60.6	58.4	47.0	
SAT. 1	S.W.	61.6	58.2	70.2	53.3	0.02	60.5	60.2	58.4	43.8	
MEANS	...	60.3	56.7	66.3	53.4	1.00	61.6	60.7	58.4	47.0	

Remarks.—The weather has been dull and cool, with rain on six days. Total rainfall for July, 3.95 inches.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Aug. 1, is furnished from the Meteorological Office:—

"The weather was again in a very unsettled condition, with frequent and, in many cases, heavy falls of rain. Thunderstorms occurred in several parts of Ireland on Sunday, and in the north of Ireland only on Monday, and over a considerable portion of England on Wednesday.

"The temperature was below the mean, the deficit being slight (only 1°) in Scotland, England, N.E., and the Channel Islands, but rather large (3°) in England, N.E. The highest readings which occurred at various times in the different districts, ranged from 74° in the Midland Counties, and 73° in Scotland, N. and England, N.E., to 68° in Ireland and Scotland, N., and to 67° in the Channel Islands. In the middle part of the week the daily maxima on our north-east coasts were often below 60°, and in some places below 55°. The lowest readings also occurred on varying dates, and ranged from 40° in England, N.W., and 41° in Scotland, N. and E., to 47° in England, N.E. and S.W., and to 53° in the Channel Islands.

"The rainfall was considerably in excess of the average over the United Kingdom generally, but was about equal to the normal in England, N.W., and Ireland, N., and slightly in defect in Scotland, N. In Scotland, E., and England, N.E., and S., the total amount was more than three times the weekly average, the largest aggregates reported at individual stations being 3.5 inches at Marchmont, 2.8 inches at Shields, and 2.2 inches at Hastings (St. Leonards).

"The bright sunshine was less than the normal, the deficiency being slight in most of the grazing districts, but large in the wheat-producing districts. The percentage of the possible duration ranged from 42 in the Channel Islands, and 35 in England, S.W., to 17 in Scotland, E., and 15 in Scotland, N."

THE WEATHER IN WEST HERTS.

Cold, Wet and Sunless.—The present cold, wet and cloudy period has now lasted over three weeks. During that time there has been only one seasonably warm day; most of the nights, on the other hand, were rather warm than otherwise. The ground is now at about an average temperature at 2 feet deep, but about 1° colder than is seasonable at 1 foot deep. Rain has fallen on all but four of the last nineteen days, and to the total depth of 3½ inches—which is equivalent to a watering on each square yard in my garden of 16½ gallons. In order to show how saturated the ground has become, I may state that in the last eight days nearly a gallon of rain-water has come through the percolation-gauge on which short grass is growing—a very unusual circumstance at this time of year. The sun has shone on an average during the week for about four hours a day, or for about two hours a day less than usual. The August Bank Holiday was the only bright day of the week. The winds have been, as a rule, rather high, and have come mostly from some

westerly point of the compass. The mean amount of moisture in the air in the middle of the day was about 8 per cent. in excess of the average for the season.

JULY.

This was a cold, wet, sunless month. With the exception of the same month last year this was the coldest July for twelve years. The days were, as a rule, more exceptionally cold than the nights. There occurred only five really warm days, and on three of these the temperature in the thermometer-screen rose to or above 80°. On the coldest night the exposed thermometer fell to within 3° of the freezing-point. It was the wettest July for eight years. Rain fell on sixteen days to the aggregate depth of 3½ inches, or about three-quarters of an inch in excess of the July average. The whole of the rainfall, except a few insignificant showers, was deposited during the latter half of the month. Of the total amount (equivalent to a watering of 15 gallons on each square yard), 9 gallons came through the bare soil percolation gauge, and half a gallon through that covered with short grass. In only two other Julys during the last eighteen years has there been as little sunshine; in fact, the record fell short of the average by more than an hour a day. The winds were as a rule light, and for 455 hours, or nineteen days, came from some point between south and west. The atmosphere was more humid than in any July for nine years.

MARKETS.

COVENT GARDEN, August 6.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Alstroemeria, doz. bunches	4	0-6	Lily of the Valley, p. doz. bunches	6	0-18
Asters, bunches...	0	4-16	Lupins, doz. bun.	3	0-4
Azaleas, doz. bun.	2	0-4	Malva, doz. bun.	4	0-6
Carnations, per doz. bunches	2	0-12	Marguerites, yellow, doz. bunch.	1	6-20
— Malmesons, doz. ...	6	0-12	Mignonette, doz.	2	0-3
Coreopsis, dozen bunches	1	0-2	Montbretias, per dozen bunches	4	0-8
Dahlias, per doz. bunches	4	0-6	Oreohide: Cattleya, dozen blooms...	6	0-12
Eucharis ...	2	0-3	Pelargoniums, zonal, dozen bunches	4	0-6
Ferns, Asparagus, per bunch	1	0-2	Phlox, per dozen bunches	4	0-6
— French, per doz. bunches	0	4-6	Poppies, Iceland, p. doz. bunches	0	6-10
— Maidenhair, doz. bunches	4	0-6	Roses, Mermet, doz.	1	0-2
Gardenias, p. box	1	6-30	— various, per bunch	0	2-16
Gladiolus, White, doz. bunches	2	0-6	— red, 12 bunches	2	0-6
— Blushing Bride, dozen bunches	4	0-6	— white, bunch	1	0-2
— Breckleyensis, per bunch	1	0-2	— pink, bunch	0	4-16
— various, bunch	0	6-10	Smilax, doz. trails	1	6-26
Gypsophila, bun.	0	3-4	Stenactis speciosa (pale mauve), doz. bunches	2	0-3
Liliums, longiflorum, per bunch	1	6-20	Stephanotis, per dozen	1	6-20
— lancifolium, per bunch	1	6-20	Stocks, per dozen bunches	2	0-4
— candidum, per bunch	1	0-2	Sweet Peas, per dozen bunches	1	0-3
— rubrum, bunch	1	0-2	Tuberose, strong, per bunch	0	9-10
— auratum, bunch	1	0-2	— per dozen	0	2-03

PLANTS IN POTS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Acers, each	2	0-26	Lilium longiflorum, per doz.	6	0-12
Adiantum, doz.	4	0-8	— lancifolium, per dozen	6	0-12
Aralias, per doz.	4	0-8	Lycopodiums, p. dozen	3	0-4
Arbor Vitæ, per dozen	9	0-18	Marguerites, doz.	3	0-12
Aspidistras, doz.	18	0-36	Mignonette, doz.	4	0-6
Aucubas, per doz.	4	0-8	Orange-trees, each	3	0-74
Campanulas, doz.	4	0-8	Palms, var., each	3	0-20
Coleuses, per doz.	4	0-5	Pelargoniums, — Oak-leaved, scented, doz.	3	0-40
Coreopsis, dozen	4	0-6	— pink, per doz.	4	0-6
Crassulas, dozen	8	0-12	— scarlet, doz.	3	0-6
Crotons, per doz.	12	0-24	Petunias, p. doz.	4	0-6
Dracenas, variety, dozen	12	0-48	— in boxes	1	0-16
Eucalyptus, vars., per dozen	4	0-6	Pteris tremula, doz.	4	0-8
Ferns in var., per dozen	4	0-30	— Winstedii, doz.	4	0-8
— Japanese balls, doz., each	1	0-16	Rhodanthes, per dozen	2	0-4
Ficus elastica, doz.	9	0-24	Rose Trees, per dozen	6	0-12
Fuchsias, p. doz.	3	0-6	Verbenas, dozen	4	0-10
Heliotrope	4	0-6			
Hydrangeas, doz.	8	0-24			

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, home-grown, per half bushel	3	6-76	Grapes, Muscats, B., per lb.	1	0-20
Apricots, per doz.	1	6-20	Gooseberries, per sieve	4	0—
Bananas, bunch...	7	0-14	Lemons, per case	7	0-12
— loose, dozen	1	0-16	Melons, each	0	8-20
Cherries, sieve	6	0-10	Nectarines, A., per dozen	12	0-18
Currants, Red, per sieve	5	0-56	— B., per doz.	3	0-40
— Black, sieve...	12	0—	Oranges, per case	13	0—
Figs, per dozen	1	0-30	Peaches, A., per dozen	7	0-12
Grapes, Alicante, per lb.	0	10-16	— B., per dozen	1	0-40
— Gros Maroc, lb.	1	0-16	Pines, each	2	6-40
— Hamburgh, A., per lb.	1	6-20	Plums, per sieve	7	0-11
— B., per lb.	0	8-10	Raspberries, per dozen punnets	6	0—
— Muscats, A., lb.	3	0-40	— per cwt.	42	0—

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per dozen	1	0-16	Mushrooms, house, per lb.	0	8-10
Beans, dwarf, per sieve	0	5—	Onions, per case	5	0—
— broad, bush...	1	6-20	— per bag	5	0—
— Scarlet Runners, p. sieve	4	0-50	— green, per dozen	1	6-26
Beetroots, per doz. bunches	2	0-30	Parsley, per doz. bunches	2	0-30
Cabbages, tally	3	0-50	— sieve	1	0—
Carrots, new, per dozen	1	0-13	Peas, per bag	4	0-70
Cauliflowers, per dozen	2	6-30	— per bushel	2	6-34
— cwt.	5	0—	Potatoes, per ton	60	0-120
Celery, per dozen bundles	9	0-10	— St. Malo, per cwt.	5	0—
Cress, per dozen punnets	1	3—	— Lincoln, &c.	4	0-60
Cucumbers, per dozen	1	6-30	Radishes, per dozen bunches	0	9-10
Endive, per doz.	1	6—	Salad, small, punnets, per doz.	1	3—
Garlic, per lb.	0	2—	Spinach, per sieve	2	0-26
Horseradish, foreign, p. bunch	1	6-19	Tomatoes, Channel Islands, per lb.	0	3-04
Leeks, per dozen bunches	1	6-20	— English, per 12 lb.	3	6-46
Lettuces, Cabbage, per dozen	0	9-10	Turnips, new, per doz. bunches	2	0-30
Lettuce, Cos, per score	0	6-16	— per bag	3	0-40
Mint, per dozen bunches	2	0-26	Vegetable - Marrows, per dozen	1	0-16
			Watercress, per dozen bunches	0	4-06

REMARKS.—Vegetable-Marrows are now coming fast, in bushel flats, at 2s. to 2s. 6d.; in pads, 4s., prices have a downward tendency. Tomatoes are also coming in, and they are of less value. English Apples, viz., Ecklinville, Keswick, and Julien, per sieve or half bushel. 3s. 6d.; Devonshire Quarrenden, 6s. to 7s.; Pear "Chalks," sieve, 3s. 6d. to 4s.; Californian, in cases, 12s. to 14s. Naples Melons, in cases, 10s.; Morello Cherries from 6d. to 1s. per lb. for good samples.

POTATOS.

Home-grown, 4s. to 5s. 6d. per cwt. John Bath, 32 & 34, Wellington Street, Covent Garden.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending August 1, 1903, and for the corresponding period of 1902, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1902.	1903.	Difference.
	s. d.	s. d.	s. d.
Wheat	31 8	28 11	- 2 9
Barley	25 0	21 0	- 4 0
Oats	23 10	18 6	- 4 4

FRUITS AND VEGETABLES.

GLASGOW, August 5.—The following are the averages of the prices during the past week:—Apples, Lisbon, 1s. to 12s. per case; Tomatoes, 8d. to 8d. per lb.; Oranges, Naples, 9s. to 12s. per box; Melons, 6s. 6d. to 9s. per box; Lemons, 6s. 6d. to 10s. per box, and 10s. to 14s. per case; Grapes, English, 1s. 3d. to 2s. 9d. per lb.; do., Denia, green, 5s. to 7s. do.; do., black, 11s. to 13s. per barrel; Onions, 8s. 6d. to 6s. per case; Strawberries, 4d. to 10d. per lb.; Dutch Currants, red, in tubs for preserving, were 18s. per cwt.; red Gooseberries, 20s. do.; Scotch and Irish Barringtons, 23s. to 25s. per cwt.; Irish green Gooseberries, 18s. to 20s. per cwt.; Dutch Carrots, 6s. to 7s. per hamper; Cauliflowers, 2s. per hamper.

LIVERPOOL, August 5.—Wholesale Vegetable Market.—Potatoes, per cwt. Early Regents, 3s. 6d. to 4s.; Kidneys, 5s. to 5s. 6d.; British Queen, 4s. to 4s. 6d.; Turnips, 8d. to 1s. per 12 bunches; Swedes, 3s. to 3s. 6d. per cwt.; Carrots, 8d. to 1s. per 12 bunches; Onions, foreign, 4s. 6d. to 4s. 9d. per cwt.; Parsley, 4d. to 6d. per dozen bunches; Lettuces, 6d. to 10d. per dozen; Cucumbers, 1s. 6d. to 3s. do.; Cauliflowers, 1s. to 2s. 6d. do.; Cabbages, 6d. to 10d. do.; Celery, 2s. to 2s. 6d. do.; Peas, 3s. 6d. to 5s. per hamper; Beans, 2s. to 2s. 6d. do. St. John's—Potatoes, 1s. 4d. per peck.

Peas, 1s. to 1s. 6d. do.; Cucumbers, 3d. to 6d. each; Gooseberries, 3d. to 4d. per lb.; Currants, Red, 6d. do.; Peaches, 4d. to 6d. each; Grapes, English, 1s. 6d. to 3s. 6d. per lb.; do. foreign, 6d. to 8d. do.; Pines, foreign, 4s. 6d. to 6s. each; Mushrooms, 11d. per lb. *Birkenhead*:—Potatoes, 1s. to 1s. 4d. per peck; Peas, 10d. to 1s. 4d. per peck; Cucumbers, 2d. to 4d. each; Currants, Red, 6d. to 8d. per lb.; Peaches 4d. to 6d. do.; Cherries, 6d. to 8d. do.; Gooseberries, 3d. to 4d. do.; Grapes, English, 1s. 6d. to 4s. do.; do. foreign, 6d. to 8d. do.; Tomatos, English, 6d. to 8d. do.; Mushrooms, French, 10d. to 1s. do.; Filberts, 8d. do.

ANSWERS TO CORRESPONDENTS.

**** EDITOR AND PUBLISHER.**—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

APPLES: G. N. L. S. The flowering of Apples on terminal shoots is very common this year, in consequence of the peculiar season.

CORYDALIS SEMENOV: A. R. G. Why not advertise your wants in this journal?

FERN FROND WITHERED: *Constant Reader.* If this is the only damaged frond on the plants an injury to the stalk may have caused it to wither. If the injury is general throughout the house we should suspect foul air from a drain or other source. Sometimes such injury will arise in a freshly-painted house which has been kept close. If chemical manure has been used that might cause the mischief. Fumigation or the injudicious use of insecticides is another source of danger.

FRUIT-TREE ESPALIER FENCE: J. B. Make this of iron wire, not twisted but solid, $\frac{3}{8}$ inch in diameter, fixed in long lengths to malleable iron standards let into blocks of stone sunk 2½–3 feet into the ground, and furnished with one strut each to counteract the strain. If the wires be secured each to a swivel and screw-hook at one end and the other direct to the post, the wires can be readily tightened should they get slack in the course of time. The fence will last for half a century without repairs, whereas wooden fences are a constant source of expense in painting and repairs, whether with or without iron wires to which to train the branches. The wire and standards before rusting sets in should be primed with red-lead paint, and finished off with two coats of slate-coloured paint.

GRAPES: T. L. and E. P. D. The berries are affected with the too common "spot fungus," (*Gibbosporium*). Try spraying with weak Bordeaux-mixture. Sulphate of potash would be of no use, but sulphide of potassium might be; the latter is generally known as liver-of-sulphur; use ½ oz. to 1 gallon of water.

GRUBS WRAPPED IN LEAVES: J. Allsop. You have sent us a nest of one of the leaf-cutter bees, *Megachile centuncularis*. Each grub is enclosed in a single cell, formed usually of Rose-leaves. These bees often disfigure the Rose-leaves by removing circular and ovate pieces for the formation of their cells, but they do not seriously injure the plants.

MELON: L. W. The Melon-spot, so terribly prevalent. Burn the plants, and spray next season with weak Bordeaux-mixture, the formula for which has repeatedly been given.

LAUREL LEAVES: J. Allsop. We are unable to indicate the cause of the injury. It is not caused by insects.

LAWN: J. B. M. *Prunella vulgaris*. Spud it up, and apply some rich manure, which will favour the growth of the finer grasses.

LILUM LONGIFLORUM HARRISII (SYN. L. L. EXIMUM) STARTING TO GROW A SECOND TIME IN ONE YEAR: W. T. Addlestone. The bulb having flowered two months ago the first stem has decayed, and its place has been taken by a fresh one. The bulb may have been a retarded one, and forced into bloom by having heat applied in the spring. You must repot the bulb or surface the soil with fresh compost, and grow on out-of-doors till cold weather arrives, then remove to a greenhouse or pit, and keep moist till the bulb flowers and the stem decays. When that occurs turn the pot on its side on the moist floor of the greenhouse till the spring.

LOED CARINGTON'S SMALL HOLDINGS ACT: *Inquirer.* You would do well to obtain a copy of the Act from Eyre & Spottiswood, the King's Printers. It would cost but a few pence. Doubtless you would find it of use in dealing with tenants.

MELON DISEASED: H. K. T. Stem canker at the collar. Too much moisture.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—F. O. *Catasetum fimbriatum*.—A. B. *Artemisia vulgaris* (Wormwood).—J. K. R. 1, *Rondeletia speciosa*; 2, *Plumbago rosea*; 3, *Centranthus ruber*; 4, *Lychnis chalcedonica*; 5, *Cryptomeria japonica*; 6, *Leycesteria formosa*; 7, *Achillea Millefolium roseum*; 8, *Sequoia sempervirens*; 9, send in flower; 10, *Cistus ladaniferus*.—H. P. P. 1, *Prunus Pissardi*; 2, *Thuja gigantea*; 3, *Cupressus Lawsoniana aurea*; 4, *Abies Clanbrassiliana*; 5, A. *Pinsapo*; 6, *Rosa rugosa*; 7, *Abies*—perhaps *Nordmanniana*; 8, *Pinus Laricio*. The peculiar season we are having, and the situation they are growing in, probably cause the damage to your Sweet Peas. —J. T. R. *Dendrobium Dalhousieanum*.—W. T., *Addlestone*. *Dactylis glomerata variegata*, useful for edgings to flower-beds, &c.—W. H. D. *Alyssum saxatile*.—W. J. G. *Asparagus myriocladus*.—Max L. The *Statice* is probably S. *Gmelini*. The two *Codonopsis* cannot be specifically distinguished, for the large one see the figure, *Botanical Register*, vol. xxviii, t. 3; one sees in the herbarium flowers of intermediate size, but most of the material is like the larger flower. The smaller flower is like that of Royle's *Illustr.* A.B.R.—P. W. C. *Nepeta violacea*.—C. J. P. 1, *Ulmus campestris variegata*; 2, *Retinospora ericoides* of gardens; 3, *R. dubia*; 4, *Juniperus virginiana* var. *Sshottii*; 5, *Thuja orientalis*; 6, Flowering state of Ivy *Hedera helix*.—Miss Kaye. *Trachelium cœruleum*.—G. C. 1, *Thalictrum majus*; 2, *Ononis arvensis*; 3, *Lolium italicum*; 4, *Hypericum perforatum*; 5, *Lupinus polyphyllus*; 6, *Spergula arvensis*; by no means characteristic Perthshire plants.—W. H. D. *Alyssum saxatile*.

NODULES ON ROOT OF CULINARY PEAS: J. F. C. These are common to all Leguminous plants; they are due to the irritation set up by bacteria, which do good by rendering available the nitrogen of the air.

PEACH DECAYED: H. D. The fruit sent is affected with ordinary rot common on stone fruits, Apples, Pears, Strawberries, &c., *Monilia fructigena*. It is met with on half-ripe, over-ripe, and fallen fruits, and in the case of Apples and Pears, the fruits sometimes dry up and hang on the trees till late in the year. The conidia overspreads the skin, causing cracks, through which the spores enter. The poor flavour complained of in your Peaches may be due to excess of water at the root, lack of air and sunshine, or to the varieties not being good ones. All decaying fruits should be collected and burnt.

PEACHES DISEASED: T. O. A. Mildew; apply flowers-of-sulphur and burn all affected fruits.

PEAR LEAVES: *Mill Hill*. The slug-worm, a grub of a saw-fly. Burn the fallen leaves as far as you can. Spraying with infusion of quassia, if practicable, might be serviceable.

POTATO FOLIAGE: W. H. *Divers*. This is the Potato-disease, *Phytophthora infestans*. Spraying with Bordeaux-mixture is the only means of checking the spread. G. M.

PTERIS FRONDS DISCOLOURED: *Nurseryman*. The injury is caused by mites, so small that they have escaped your notice. Try vapourising with XL-All, or a weak mixture of tobacco-water and plain water.

SHRUBS: J. C. M. P. You may safely remove the evergreen shrubs in August and early the following month if you take good masses of earth with the roots. Keep the bushes syringed for a month afterwards.

THORN-LEAVES: G. V. Mildew. Pear-branches appear to have been scorched when wet.

TOMATOS: S. D. & Son and F. S. The plants in both houses are suffering from the same disease, caused by a well-known fungus pest called *Cladosporium fulvum*. Pick off and burn badly infected leaves, and spray all the plants thoroughly with potassium permanganate every other day, 1 ounce of the crystals to 10 gallons of water.

VIOLET: H. C. The yellow colour is due to the imperfect formation of chlorophyll from the cold, wet, sunless season acting on weak individuals.

ZEPHIRE OR ZEPHYRE: X. The word is spelt in both ways. It has been said that a difference in meaning attaches to the two words—that "Zephire" is the west wind, and "Zephyre" any mild wind. But Littré recognises no such difference.

COMMUNICATIONS RECEIVED.—G. M. W.—R. L. C.—W. J. G.—Dr. M., Dusseldorf—J. T. H.—W. H. S.—J. B.—W. E. G., with thanks—G. G., Paris—Hans Schinz, Zurich—W. B.—Florence, next week—H. E. M., next week—M. C. C.—M. B. Middelburgh—T. H. H.—S. A.—P. H.—J. H.—E. N.—W. P.—T. B.—W. F. C., San Francisco—J. H. G.—J. P. B.—E. M.—W. H.—The Orchard Co., Ltd.—Dr. Bonavia.—S. C.—A. C. F.—E. C.—W. H. D.—J. O'B.

GARDENING APPOINTMENTS

MR. F. R. BROWN, formerly General Foreman in the Gardens, Glenart Castle, Co. Wicklow, as Steward and Gardener to the Right Hon. the Vice-Chancellor of Ireland, New Park, Blackrock, Co. Dublin. He entered upon his duties on July 24.

MR. WILLIAM COOK, for five and a half years Foreman at Horstead Hall Gardens, Norwich, as Head Gardener to H. COMPTON, Esq., Minstead Manor House, Lyndhurst, Hampshire.

MR. H. E. FORSTER, until lately Foreman in Coworth Park Gardens, Sunningdale, Berks, as Head Gardener to Mrs. BARBER, Park House, Englefield Green, Surrey.

MR. F. W. PARKES, for the past few months employed in the gardens at Wykeham Abbey and previously Head Gardener at Royston Manor, Retford, as Head Gardener to Lord MIDDLETON, Wollaton Hall, Nottingham.

MR. WILLIAM MABBOTT, until lately Head Gardener at Doddington Hall, Lincoln, as Head Gardener to the Lady MAUD ROLLESTON, Watnall Hall, Nottingham, and entered upon his duties on August 4.

MR. A. BARNES, late Gardener at Denne Hill, Canterbury, as Gardener to S. CRESSWELL, J.P., Hole Park, Rolvenden, Kent. He entered upon his duties June 15.

MR. JAMES T. FLETCHER, lately of The Gardens, Riverside, Harrowby, Grantham, as Head Gardener to Lady PULESTON, Emral Park, Wrexham.

CATALOGUES RECEIVED.

BULBS.

W. B. HARTLAND & SONS, Patrick Street, Cork—Tulips and Daffodils.

B. & WILLIAMS & SONS, Victoria and Paradise Nurseries, Upper Holloway, London, N.—Bulbs, Roots, and Forcing Plants.

JOHN REED & SON, West Norwood, London, S.E.—Bulbs, Roots, and Forcing Plants.

DAVID THOMSON—Bulbs, Roots, and Forcing Plants.

BARR & SONS, 11, 12, and 13, King Street, Covent Garden, London—Daffodils.

Continued Increase in the Circulation of the
"GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper, more than

TREBLED.



NIGHT-FLOWERING CEREUS AT HONOLULU: FROM A PHOTOGRAPH BY THE DAVEY PHOTOGRAPHIC CO.



THE Gardeners' Chronicle

No. 868.—SATURDAY, AUGUST 15, 1903.

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SEASIDE GARDENING.

THE aim of this article is to indicate the means of making the shores of our marine resorts gay with flowers or attractive by well-arranged and contrasted foliage during the summer or early autumn, according to the period which is the "season" at any given resort.

Already in these columns, articles relating to seaside planting of trees and shrubs of a permanent character have appeared; but when this work is done there should always be room for additional plants of perennials, bedding plants, or annuals. The judicious choice of these will determine whether the work be done satisfactorily, or simply for immediate effect, without thought for the future or the fitness of the subjects used for the work.

It is needless to say that to succeed, plants used on the breezy shore must be dwarf, and to a certain extent rigid in character, or the first gale will ruin them; but if care has been exercised in arranging permanent low hedges of Tamarix, Lycium, or Euonymus japonica, or any well-tried marine shrub, many other things may be successfully used, though the planter must always be prepared for accidents and sudden storms, which now and again will wreck his work.

Artificial shelter is sometimes very needful, especially immediately after planting. The plants should in all cases have been well hardened off before being put in their places, or disappoint

ment will be sure to follow. Appropriate shelter is provided by low woven hurdles and coarse Jute netting or scrim canvas, all of which are easily fixed and serve the purpose admirably.

Pelargoniums should be selected from the zonal section, characterised by small foliage, close compact habit, and from those bearing small trusses on rigid, stout foot-stalks. The plants should, if possible, be old and woody, or, at least, from cuttings struck early in the autumn of the previous year, as these are not likely to run to coarse and sappy growth, and as a consequence will flower more freely. If the soil is strong, let the plants be frequently pinched back.

Varieties are numerous and nearly every gardener has his favourite sorts, but the following will be found a good selection: Crimsons—Dr. Rawson and Edward III.; Scarlet—West Brighton Gem and Vesuvius; Pink—Mrs. E. T. Crocker and Master Christine; White—Queen of Whites and Salmon Surprise. Pelargonium beds may be edged with any of the close compact Ivy-leaved kinds, as Galilee or Madame Crousse, and a good golden edging is furnished by Golden Harry Hieover, and of silver-foliaged kinds, Silver Crown and the old Bijou and Flower of Spring. The bicolor or bronze section furnishes us with two very fine kinds, Black Douglas and MacMahon, while in tricolors there is none better either for habit or colour than Henry Cox, as it grows well, is stiff in habit, and the foliage is brilliantly tinted. If foliage is desired, keep the bloom trusses constantly removed. The Ivy-leaved class will repay for frequent pegging-down, and all kinds will greatly benefit by the frequent removal of spent trusses of flower. The colours in the foliage of both the bicolor and tricolor-leaved Pelargoniums are much more vivid by the sea, and I have noticed too that the Cape everlastings, Aphelexis and Phenocoma, are much brighter in hue, and the bracts of Bougainvillea glabra are quite a shade darker when grown under the influence of the sea breeze.

The late Miss Anne Pratt states in her *Plants of the Sea-shore* that an almost universal characteristic of such littoral plants is the grey-blue or glaucous colour of their foliage and stems, so marked in the wild Cabbage, Seakale, Horn Poppy, and very noticeable also in the sea Hollies (*Eryngium*). We may safely take this as a guide in a selection of fit subjects for our present purpose. One of the most effective and handsome beds is made by planting *Eryngium giganteum* in the centre, and *E. amethystinum* (*Oliverianum*) round it; or a variation of this is a single plant of *Scolymus hispanicus*, either surrounded by *Alyssum montanum* or *Santolina incana*, and for a bit of colour use *Alternanthera* or one of the larger *Amaranthus*, as *A. melancholicus* ruber. The free-flowering Sea-Lavender (*Statice profusa*) also makes an excellent summer bed, but is not hardy like *S. latifolia*. A good finishing plant for such beds is furnished by *Thalictrum adiantifolium*, of which the flowers should be removed. Almost all the Pink and Carnation-tribe thrive by the sea, but choice should rest with the small tufty-growing kinds known popularly as Pinks. These are all furnished with fragrant flowers, and when past flowering are neat and effectual, while in colour of flower they offer us almost unlimited choice.

Mixed beds of these are, however, preferable; and plants of the new Margaret section, which may be grown as annuals if sown early in gentle heat, are especially adapted, giving as they do endless variety of colour and neat grass-like leaves, while they are free and continuous bloomers.

Stocks of all kinds being mostly of marine origin thrive at the sea-coast, but it is safer to plant out from nursery-beds in the spring such kinds as East Lothian, intermediate and the Brompton sections. The dwarf kinds should be used, as the upright-growing or giant kinds are

too tall, and so will be broken by the wind. The annual (Ten-weeks) Stocks are admirable for the purpose, and give us quite a kaleidoscopic range of colour, while they are also sweet-scented. Continuous flowering is secured by not allowing any seed-pods to form.

Of the many so-called bedding-plants, the dwarf-growing Lobelias (*Erinus* varieties) are all suitable and useful, as also are the dwarf, compact-growing Heliotropes, and the brilliant though malodorous Lantanas. A mixed bed of the purple foliaged cardinal Lobelia, called Victoria, dotted with tufts of silver grass (*Poa trivialis* variety), forms a cool rest for the eyes after the glare of a cloudless summer day; and even more so is an arrangement of the Cape Leadwort, *Plumbago capensis*, pegged down, and associated with a soft pink or purple Verbena. Of Verbenas, the kinds most desirable are the compact-growing sort known to florists as Imperatrice Elizabeth, with trusses of small striped flowers (its growth is close to the soil); and the truly perennial *V. venosa* also does well in the sea air. The last may be treated as an annual. Other Verbenas are the scarlet "Defiance" and Snowflake, which are very fragrant, and both come true from seed; and for a blue take auriculiflora or Purple King, which may be trusted also to come correct to colour from seed, though they may vary a little in habit of growth and height.

All the Marguerites do well at the seaside, but the old *Chrysanthemum frutescens*, with its neat, deeply-cut, glaucous foliage and abundance of starry, pure-white flowers, is the best; and preference should be given to the yellow form called Feu d'Or, as it does not grow so rankly as the older yellows, and blooms more freely, while it is not so apt to be disfigured by the leaf-mining maggot. The *Agathæa cœlestis*, or Blue Daisy, may be planted round beds of Marguerites, as its half-shrubby character serves to keep it in bounds. Where the beds are sheltered from winds, the fine kind known as Halleri maxima will serve admirably, but it is not so free-flowering as *frutescens*.

In like positions, some of the large-flowered dwarf Italian Cannas may be used. Of the scarlets, one called Queen Charlotte is one of the best; and good yellows are Admiral Courbet and Sicilia. Beds of these are conveniently bordered with such dwarf kinds as Auguste Chantin, or the distinct Ehemanni, the broad, Musa-like foliage of the latter being very effective.

Among handsome-leaved plants, we have in the Cape Honey-flower (*Melanthus*) a most useful and very handsome plant, with large, deeply-cut foliage of a silvery sheen. *M. major* is the one usually found in gardens, associated with sub-tropical plants.

The New Zealand Flaxes (*Phormium*) are among the most wind-resisting of foliage plants, and are of great service planted round the outside of beds of softer-leaved plants, as Cannas or Begonias. The green-leaved type is good, but there are some very fine variegated sorts—tenax variegata and Colensoni variegata, the last giving varied shades of yellow and green in its tough, leathery foliage. The Phormiums are easily raised from root-cuttings, or the typical kind from seed; but the seed takes a long time to germinate, and the young plants are very slow in coming to useful pieces for either garden or conservatory decoration.

The dwarf, small-flowered early Chrysanthemums make also a neat and pretty bed, and their habit being stiff and erect, and their flowers generally small, they resist stormy winds well. The highly-coloured crimson Marie Masse and crimson Source d'Or, with Grace Ottiek and White Quintus as pure whites, Flora and Lizzie Adecock for yellows, Rose Wells and Sam Barlow for pink, will furnish all one needs in varied colour.

(To be continued.)

NEW OR NOTEWORTHY PLANTS.

LILIUM × CHALCEDO-HANSONI (CHALCEDONICUM ♀ × HANSONI ♂).

FROM C. B. Powell, Esq., The Old Hall, Southborough, Tunbridge Wells, comes an example of a good hybrid between *Lilium chalcedonicum* and *L. Hansonii*, the growth of the plant with its ascending leaves partaking much of the seed-bearer, but the flower deriving its chief characteristics from *L. Hansonii*. Perianth-segments $2\frac{1}{2}$ inches long and more than 1 inch in width, reflexed; bright orange, tinged with Indian-red, lighter in tint towards the tips, and bearing minute warted chocolate spots and reddish papillæ at the base and lower half. Style and anther filaments an inch in length; anthers of an orange-scarlet colour.

About raising *Liliums* from seeds, Mr. Powell gives the following information:—"We sowed in 1899 in a frame various Lily seeds, all supposed to be hybridised; but most of them have come true to the seed-bearing species, so far as we have proved them. It proved, however, how much faster some kinds mature than others, for *L. Henryi* bloomed in 1901, and one of its bulbs has borne four flowers this year. Over a dozen of the *L. martagon* album from the same batch are just gone over, some having had nine or ten blooms. We carefully crossed *L. Henryi* with *L. Wallichianum* in 1901, and these are only in the first-leaf stage after two years' growth." J. O'B.

FLORISTS' FLOWERS.

DAHLIAS AT CHISWICK.

AMONGST the trials of flowering plants conducted at Chiswick from year to year, none have created more interest than have those relating to Cactus Dahlias. But the plants have largely been allowed to grow naturally, thus showing merits or demerits as garden decorative objects just as nature has made them. That form of culture, however, has given offence to the Dahlia fanciers who form the National Dahlia Society, and who have complained that the Chiswick "go-as-you-please" culture was not that of Dahlia experts, however much it may be that of the general public. This year the trial of Cactus Dahlias is limited to varieties that have been put into commerce during the past five years. That fact gives to the trial additional interest in the eyes of Dahlia lovers, and one result should be the production of some that, whatever may be their merits for flower exhibition, have at least good merits as garden flowers. Too much of the energy of raisers has been devoted to mere exhibition effect, which is far from being the highest floral aim for any flower, and too little to garden decoration. That this use should be best found in plants that grow naturally, only needing support as do all Dahlias, seems to be that which ordinary cultivators of the Dahlia desire. However, a good deal of deference has been shown to the requirements of Dahlia-experts in connection with the trial this year. Each plant we observed recently has had its leader taken out, and three side shoots only retained. Each of these is fastened to a tall Bamboo-stake, and on the whole of the plants, of which there are very many, the shoots will be kept thinned, as growers treat their plants. It is to be hoped, however, that there will be very little disbudding practised. It is essential that Fellows, or all others interested in Dahlias, should be enabled to note weak as well as strong points in all the varieties. In garden floriferousness, raisers may well seek to produce a Cactus race that are as free bloomers as are the Pompons. A. D.

THE STRAWBERRY CROP OF 1903.

THIS has been one of the best years for Strawberries at Belvoir Castle Gardens, only very few of the flowers having been injured by the frosts that occurred in the month of April, the plants making good progress until the dry period, May 17 to June 13, during which time only 0.15 inch of rain fell. As this dry period continued for so long, the beds were afforded a copious application of manure-water before they were mulched with litter. Immediately after this an abundant rain came, which did the plants much good.

Burghley President was the first variety to ripen its fruits, a good dish being gathered on June 30. This variety has a cockscomb-shaped fruit of very high colour and rich flavour; the plant has an excellent constitution.

Royal Sovereign was ready a few days later, and afforded an excellent crop, as it usually does.

La Grosse Sucrée bears well here in the open border, and is valued for home use because of its mild flavour; it has no trace of the acidity which *Royal Sovereign* and *Sir C. Napier* have; but it is too soft for travelling satisfactorily.

Vicomtesse Héricart du Thury gave a heavy crop, as usual; it is our favourite for preserving, as it keeps whole, and is of excellent flavour.

President grows well here, and gives a good crop of firm fruit and of good flavour.

Gunton Park is not a heavy cropper, but it has very large, showy fruits, which are somewhat soft inside.

Britannia (Carmichael) has done well; it is similar in appearance to *Queen of Denmark*, but larger than that variety; both have a very rich flavour, similar to that of *Frogmore Late Pine*, which I imagine was one of the parents of these varieties.

British Queen gives a moderate crop, and is the best flavoured of all Strawberries.

Dr. Hogg grows here on a north border, where it gives a middling crop of fine, highly-flavoured fruits.

Laxton's Latest-of-All is a good cropper, and is very useful in fine weather. We gathered the last from a north border on July 31.

Frogmore Late Pine is one of the best for flavour, but does not ripen well on the under side.

Waterloo is the favourite here for late crops. We have to-day (August 1) gathered the last dish. We find this variety takes longer than others before it bears a good crop, and can be left a year longer than others with advantage.

Calling on Messrs. Laxton on July 24, I was too late to see their large and interesting collection in fruit, but noted a few nice fruits of "The Laxton" of rich colour and excellent flavour under ordinary field cultivation; these were only just the finish of the crop: the plants were growing healthily and looked well. A new variety, not yet named, similar in colour to *Waterloo* and of enormous size, was just ripening. This, when sent out, will probably prove a standard variety, as it combines good flavour with solidity, good colour right through, and is of extra-large size, late in its season, and of a good constitution; and what more should a Strawberry-grower want? A very interesting lot of autumn-fruiting seedlings had just commenced to ripen, and contained many very promising varieties, in which the colour and size of the summer varieties have been combined with the perpetual character of *St. Joseph*. Some of these will prove invaluable when they are distributed. W. H. Divers, Belvoir Castle Gardens, Grantham.

THE SULTANIEH GRAPE.

ON August 4, at the Drill Hall, I exhibited a basket of a very interesting Grape, Sultanieh Grape, that which, in its own country, produces our old friends the Sultana raisins.

It is a delicious Grape, of a lovely reddish-amber colour, with a fine bloom; crisp (crispant), with a flavour that combines a trace of sub-acidity with sweetness; and best of all, it is quite seedless, a quality of no small value in a Grape.

I know of only two varieties of Grapes which are seedless—the Sultanieh and the black Monnaqua. I think that both these have a future.

We have recently heard a great deal about that pathological nuisance called "appendicitis." Well, these two varieties of Grapes may be styled "anti-appendicitis" fruit. The seed of the Grape is peculiar; it is pear-shaped and has a sort of beak, and is perhaps more likely to stick in the vermiform appendix of the large intestine, if swallowed; and it is not easy to avoid swallowing a seed or two sometimes. The Strawberry-seed is too small to stick; the Plum-seed too large; but the Grape-seed appears to be of the right size to do mischief.

Apart from all this, everybody will tell you that the seed of the Grape is one of its drawbacks; yet, strange to say, nobody appears to have taken up the cultivation of these two fine seedless Grapes, either for private consumption or for market purposes. The delicious Sultanieh Grape raises an interesting question in one's mind, which is this:—Would it be possible with the pollen of the Sultanieh to pollinate some of the Grape-flowers of the varieties under cultivation, such as the Muscats and others, and thereby evolve seedless varieties of these fine Grapes? This is a question that can be answered only by experiment. Here is then an opening for some wealthy amateur to make a name for himself by such an achievement, and at the same time benefit mankind.

The Sultanieh produces fine large bunches, every flower of which sets. In its own country the Sultanieh produces much smaller berries than those shown in my exhibits, judging from the size of the Sultana raisins. Those shown were never thinned at all; by proper thinning and cultivation by experts, the size might be considerably increased, and the bunch made a very respectable and beautiful thing.

Those shown were grown under glass, with heat in winter and only sunheat in summer. This year, however, there has been little sun. E. Bonavia, M.D.

[To Dr. Bonavia we are indebted for a small bunch of this Grape. The bunch was oblong compact, the individual berries oblong conic, rather less than 1 inch long (23 mill.) and less than $\frac{3}{8}$ inch in width (16 mill.), pale greenish-yellow or amber-coloured, flushed and speckled with pale purple. The flavour is pleasant, slightly sugary, like a Sweet-Water, and would be specially grateful to those to whom the more highly-flavoured Grapes would be distasteful. If someone would invent a Red Currant or a Raspberry in a similar seedless condition, he would be rendering a service. We spell the name as Dr. Bonavia did. In *Hogg's Fruit Manual*, and generally, it is called "Sultomah." ED.]

PLANT PORTRAITS.

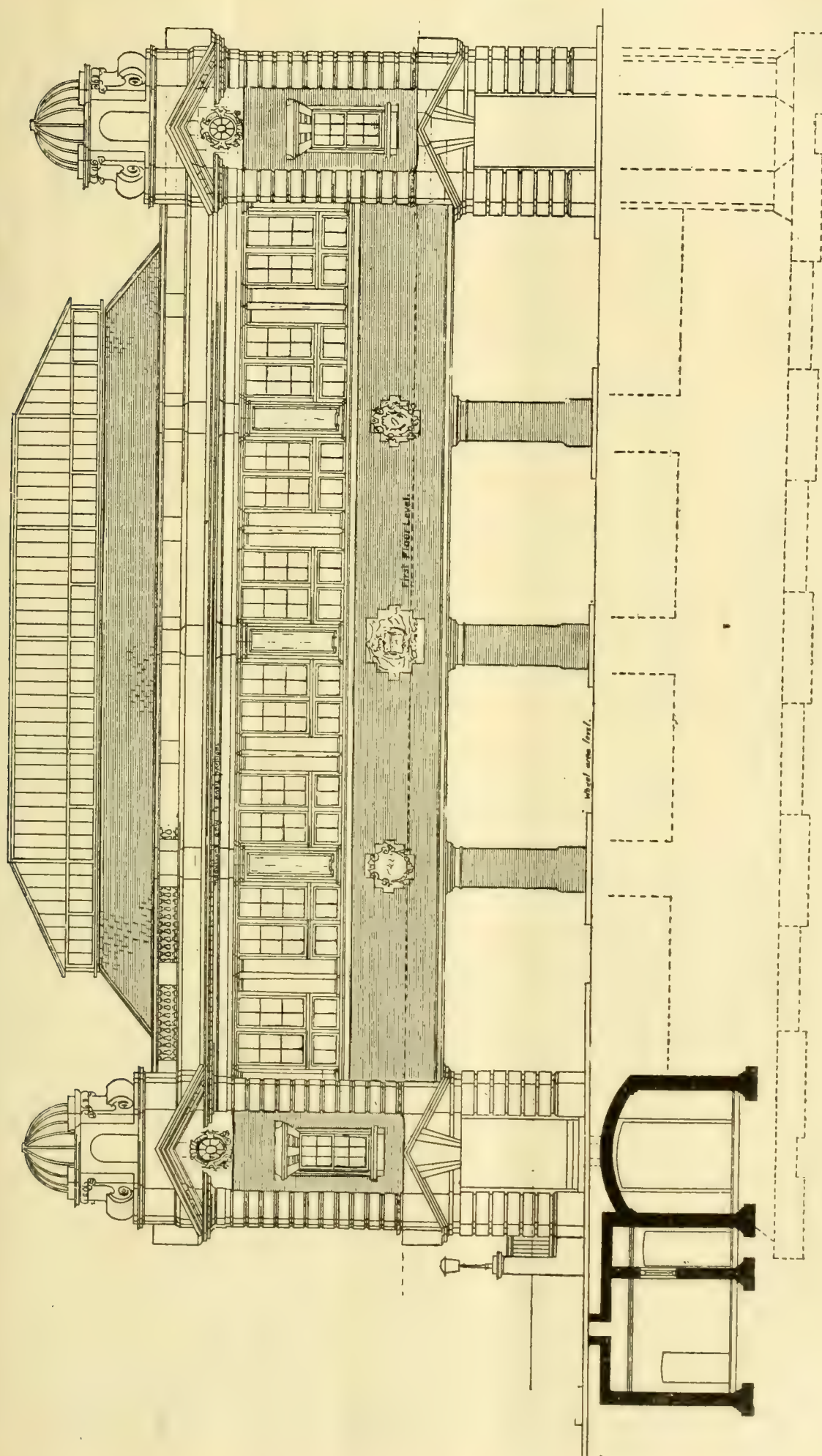
CYDONIA SARGENTI.—Wiener Illustrierte Garten Zeitung, April, 1903. Allied to *Pyrus Maulei*.

NEPENTHES BURKEI, AND N. BURKEI EXCELLENS.—Revue Horticole, June 1.

TACSONIA MANICATA.—Revue Horticole, August 1.

BROWALLIA SPECIOSA MAJOR.—Flora and Sylva, August.

CLEMATIS MADAME ED. ANDRÉ.—Flora and Sylva, August.



NORTH ELEVATION.

Scale of feet 0 10 20 30 40 50 60 70 80 90 100 feet

FIG. 45.—VIEW OF THE NORTH FRONT OF THE NEW FOREIGN FLOWER MARKET, COVENT GARDEN, AND PLAN OF BASEMENT. (SEE P. 118.)

SEED TRADE.

A FORECAST OF THE SEED CROPS.

A FORECAST of the present condition and probable yield of the seed crops can now be made, and on the whole it is satisfactory to know there is a better prospect generally than was evident at this time last year, though the frequent heavy storms about the country are not without serious danger to some subjects. The seed-grower may be said to live in a state of constant hopefulness, mingled with some amount of anxiety.

Peas.—Early dwarf wrinkled Peas promise to be very scarce and high in price; there was a much reduced quantity of stock seed to sow in the spring, owing to the heavy drain upon the stocks of dealers through the scarcity which prevailed last year; and, further, owing to the high prices which ruled during the winter, there was every inducement to sell. Then, on account of the imperfect condition in which the crops were harvested last season, germination proved indifferent, as could be seen in the case of many of the breadths sown for seed. Gradus, a Pea always in large demand, is more plentiful than last year. No wrinkled Pea is expected to yield more than an average crop, even in cases where there was a good plant. Slugs thinned the plants in all districts on account of the wet weather which prevailed just as they were through the soil. In New Zealand, where Peas are largely grown for seed purposes, there is also a shortage of crops, and in no case a full one. Germany suffered much from destructive storms at the end of April. Reports from Canada state that the Pea-weevil is at work among the Pea crops more assiduously than ever, and there is reason to think that from this cause the time is approaching when Canadian-grown Peas will cease to be imported on account of the deterioration of the Peas from this cause. The Pea crops in the United States will not be sufficient, it is said, for home requirements; indeed, large orders have already been placed in this country. The early round varieties are most largely grown in the States, being the leading sorts, and they suffered severely from keen frosts, which happened at the time when the plants were in bloom.

Broad Beans promise to be a fair crop, and the plants in Lincolnshire and other Bean-growing counties appear to have suffered less from the smother-fly than in some of the more southerly districts.

French Beans.—Both Dwarf and Runner Beans suffered on account of the heavy and continuous rains which followed sowings, germination being weak; this fact is especially noticeable in the breadths of Dwarf Beans sown for seed purposes. The plants which survived have set pretty well, despite the sunless weather, but warm sunshine and drying weather are much needed.

Brassicas = Cabbage.—Not for many years past have the Cabbages planted-out for seed bolted into flower in spring so numerous as this season, and this is traceable in a large measure to circumstances having made the planting-out later than is usual. Breadths are therefore short of seed-bearing plants, and Cabbage-seeds promise to be dearer in price than they have been for some years past. The crops of early Broccolis are by no means plentiful, the frosts having destroyed many of the plants. Savoy Cabbages, Brussels Sprouts, and Borecoles are an average crop. Cauliflowers grown for seeds in Italy are being harvested in good condition and promise an average crop, as also do the Dutch-grown varieties.

Lettuce is a good crop; so also is Parsnip and Onion. The crops of Radish-seed in France and Germany and also at home promise well. The seed harvest in California is at present somewhat

uncertain; and if the growers in that state succeed in harvesting good crops, it is doubtful if the results from such seeds will be equal in quality to what is grown in this country. It appears to be the opinion among experts that root-crops grown in California, such as Radish, Carrot, Turnip, &c., may not show such good results as English seed; the reason for the harbouring any impression of this kind being that the incidence of the season will probably develop a tendency to leafage rather than to root development.

Turnips.—Early varieties, such as the Milan and the American strap-leaved types, promised a scarce crop both at home and abroad; and prices are expected to rule higher than usual.

Field Turnips and Swedes are fairly abundant; and as there are fair stocks of seeds on hand, prices will not be high. Mangel Wurzel seeds promise to be plentiful and cheap.

Rape.—There is a very short crop in Holland, but much greater breadths were sown in this country than is usual for seed purposes. Some of the English samples are poor in comparison with that which is Dutch-grown, owing to a great extent to the impatience of the farmers to harvest, thresh out, and market their seed crops as quickly as possible. There will be, on the whole, enough seed to meet demands.

Carrot.—The latest advices from the seed-growing districts in France are to the effect that the maggot is prevalent in the flower-heads; it has worked great havoc among the seed crops of late years. This visitation is reducing the average yield; and it is a fact that shorter breadths than usual were put out for seed-production.

The **Potato** crop promises well generally. The early crops, which it is usual to dig while the haulm is green, did not yield plentifully. In the Potato-growing districts of the Midlands, very little signs of disease have put in appearance so far. *Pisum*.

REMARKS ON THE CONDITIONS OF THE FRUIT CROPS.

(See Tables, ante, pp. 72–77.)

(Continued from p. 96.)

4, ENGLAND, MIDLAND COUNTIES.

BEDFORDSHIRE.—The season of 1903 will be remembered by many fruit-growers as one of the most disastrous on record. In the Plum and Prune districts of this county, about Eaton Bray and Stanbridgeford to Cheddington in Bucks, the growers have suffered severe losses; some individuals estimate their personal losses at from £500 to £800, while the total amount must run into some thousands of pounds. The frosts of April and again in May did much damage to most fruit crops, except in a few favoured districts, the heavy rains subsequently, with extreme heat and a long dry period following, completed the mischief. *A. Lewis Castle, Ridgmont.*

— What looked likely to be in the early spring a most promising season, has turned out a complete failure here and in this district, for there is nothing, with the exception of a few Strawberries and Gooseberries. *Richard Calvert, The Woburn Abbey Gardens.*

— With the exception of Strawberries, and less than a third of a crop of small fruits, the fruit crop here is a failure. The spring being a very early one, fruit prospects were promising up to April 16. Then there came a heavy fall of sleet, and to cap this followed 7° of frost; and altogether we had 41½° of frost from April 16 to 25. *Henry Nimmo, Cranfield Court Gardens.*

BUCKINGHAMSHIRE.—I never knew a worse season than the present for hardy fruit, owing to the spring frosts. Frosts of 12° and 14° were registered at this place night after night from the middle to the end of the month of April.

Pears and Apples gave great promise, being well furnished with fruit-buds, but very few escaped the frosts, and many young trees are quite bare of fruit. Peaches, Nectarines and Apricots that were protected have suffered in just the same manner. At Wexham Park gardens we have had to thin the fruits of only one Peach-tree, viz., Early York. The east winds which prevailed in the spring brought much aphid. Plums and Cherries are almost a failure. *John Fleming, Wexham Park Gardens, Slough.*

— The spring of 1903 will long be remembered by gardeners, the promise of good crops having been most favourable; but the hard frosts of April and May destroyed all our hopes. In these gardens the Pear crop in most years is good; this year the fruits may be counted on the fingers of one hand. Apples are very partial, some varieties having very good crops, amongst them being Bramley's Seedling, Cox's Orange Pippin, Lane's Prince Albert, Worcester Pearmain, King of the Pippins, and Tyler's Kernel. Bush fruits generally were an average crop, and Strawberries were plentiful and excellent. Cherries, which are much grown in this neighbourhood, are failures in most cases, and the only variety carrying a good crop is Napoleon Bigarreau. *Chas. Page, Dropmore Gardens, Maidenhead.*

— It was generally expected that after the very severe week's frost that we had in April, when the fruit-trees were in full bloom, that much mischief would follow; and now the extent of it is plainly apparent, for a worse crop of fruit generally has not occurred within my experience of over forty years. *S. G. Miles, High Wycombe.*

— Although the prospects early in the season were very encouraging for a good fruit year, the trees being laden with blossoms, the severe weather during April destroyed almost the whole of the bloom; and in some orchards many acres in extent not a single fruit of any kind is to be found. On the evening of April 15 sleet and snow fell for about two hours, followed by 12° of frost and a bitter north wind; 12° of frost was also registered on the mornings of the 16th, 17th, 18th, and 19th, and 8° on April 20. *W. Hedley Warren, Aston Clinton Gardens, Aylesbury.*

— This is the worst year we have had for twenty-eight years. Strawberries are the only crop we have. Out of an orchard of over 100 acres we have not a bushel of Apples, Pears, or Plums. Our best Strawberries have been The Laxton, Royal Sovereign, Fillbasket, Trafalgar and Climax. *J. Smith, Mentmore Gardens, Leighton Buzzard.*

CHESHIRE.—Apples owing to the severe frosts in the middle of April made hardly any flowers. The few which set fell off in the cold winds of June. Plums and Damsons were in flower when the severe frost came, and none set; Damsons are a very serious loss to cottagers. Apricots, all fell off when small, the foliage being much damaged by April frosts. Gooseberries are an abundant crop, and so are Currants. Strawberries did not swell and were poor and seedy. *C. Wolley-Dod, Edge Hall, Malpas.*

DERBYSHIRE.—With one or two exceptions a fruit crop does not exist hereabouts, there being no Pears, Plums, or Damsons, and very few Apples and Cherries. Currants, black and red, are under average and small, owing to the prolonged drought and cold nights. *J. C. Tallack, Shipley Hall Gardens.*

— The fruit crops in the gardens here and neighbourhood are the worst we have had for some years owing to the late spring frosts. Apples, Pears, and Plums are a failure; Cherries, Morellos, only moderate; Strawberries and Red Currants under average, Black Currants and Raspberries a failure. *W. Chester, Chatsworth Gardens.*

HERTFORDSHIRE.—The fruit prospects in this locality are extremely bad. The three most important, viz., Apples, Pears, and Plums, are practically a failure, which is due to the severe and prolonged frosts during the month of April. I have, on the whole, never known such a bad fruit year. Strawberries have, however, never been better. *E. Beckett, Aldenham House Gardens.*

— I regret having to report the almost total destruction of the fruit crops hereabouts, brought about by frosts which occurred from April 13 until the 25th, which varied from 4° to 12°. Of Apples, Pears, Plums, Apricots, and Peaches we have none, and the same might be said of Cherries, although when protected on walls there are a few fruits, but these are poor. Bush fruits are about one-third of a crop. Strawberries an average, but of small size. *E. Hill, Tring Park Gardens, Tring.*

— No fruit whatever to speak of in these gardens of over 12 acres. There was a good show of Pear-blossoms, and the trees were in full blossom when the April frosts destroyed them. Apples were not in blossom, but the frost cut all the bloom-buds, and they consequently did not expand at all. *T. B. Morle, Frithsden Floral Gardens, Berkhamsted.*

— The Czar Plum-trees have fair crops; other varieties very scanty, or none. *Thos. Rivers & Son, Sawbridgeworth.*

— This year here the crop of fruit is very small. Strawberries are the only kind which I can say were of average quantity and quality. Dessert Cherries were under average in quantity, but the quality has been very good; Morellos are an exception, being good in both points. Apples generally did not bloom so profusely as usual, but there was a great show of bloom on Pears, Plums, Cherries, Peaches, Nectarines, and small fruits; and all were very early, with the exception of the Morello Cherry, which was an unfortunate state for them to be in before the long term of winterly weather which set in on April 12, which not only ruined the embryo fruit; it checked growth and made it particularly liable to the ravages of insects, and caused much labour to be spent on cleansing the trees. *G. Norman, Hatfield Gardens.*

LEICESTERSHIRE.—The crop of Apples, Pears, and Plums for the year 1903 is the worst on record, it having been ruined by the severe frosts and continuous cold winds during the months of April and May. The small fruits suffered severely; of Black Currants there are none, Red Currants are scarce and poor in quality. Raspberries were very much damaged by cold winds, but they made a second growth, and the crop is an average one, but unusually late. Gooseberries have turned out better than at one time we anticipated they would do, but the crop is much below the average. The only redeeming crop of fruit is the Strawberries; although many of the best flowers were damaged there has been a good crop of excellent fruits. *Daniel Roberts, Prestwold Gardens, Loughboro'.*

— All kinds flowered well and unusually early, owing to the months of February and March being much warmer than usual. Pears were in full bloom when the two weeks of continued frost (April 11 to 25) commenced, and the Apple-blossom was ready to open. The frosts continued to vary in intensity, but very little damage appeared until the 19th, 20th and 23rd, when the thermometer on the stand at 4 feet above the ground registered 25°, 25° and 23° respectively, and that on the grass 18°, 19° and 15°; this long-continued frost made the mean temperature of April 3.5° below the average for the month. Previous to this I had never known Apple-blossoms destroyed by frost before they opened, and cannot remember such a failure in the autumn fruit crop as we have here this

season. All varieties of Apples have fared alike. Gooseberries escaped with three-fourths of a good crop; owing to the earliness of the season they had enough foliage to protect the fruits. The Loganberry is the hardiest fruit we have here; it went through all the frost without injury to leaf or fruit. Raspberries, by its side, were much damaged. Strawberries had only a few flowers forward enough to be damaged, and have given a heavy crop of fine fruits. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

SHROPSHIRE.—I have a few Bramleys, Cox's Orange Pippin, Lord Suffield, North Green, Hawthornden, new, and Bess Pool. Fruit crops, indeed! In the whole course of my gardening career (fifty years) I never saw such a scarcity. In short, there is an absolute fruit famine in this district. Strawberries and Gooseberries are our best crops, Black and Red Currants and Raspberries only poor. *A. S. Kemp, Broadway, Shifnal.*

— Apples, Pears, Plums, and Apricots are a complete failure. I have not seen anything like it during my forty years' experience here. Raspberries are a splendid crop, and that is all I have to report. *James Loudon, The Quinta Gardens, Chirk.*

STAFFORDSHIRE.—This is the worst fruit year that I remember. Of Apple-trees most of the trees have not a fruit upon them, while the others have but a few. Of Pears and Plums there are practically none. Sweet Cherries the same; while the Morello variety has a middling crop of fruit. Red and White Currants are a fair crop, while hardly a fruit is to be found on the Black varieties. Raspberries are poor in quantity and bad in quality. Strawberries were a fairly good crop, but the season was soon over owing to the drought. Not a fruit to be seen on the Walnut, and the Nuts on the Cobs and Filberts are few and far between. *Geo. Woodgate, Rolleston Hall Gardens, Burton-on-Trent, Staffs.*

— Fruit crops in this neighbourhood are extremely scanty. The Loganberry is fruiting splendidly on plants growing on walls, proving a fine substitute for the Raspberry. Strawberries very good. *W. Bennett, Rangemore Gardens, Burton-on-Trent.*

— This is about the worst season I ever remember for out-door fruits. There are very few Apples, Pears, or Plums. Plums were very full of bloom, but the sharp frosts we had completely killed them all. I never saw Raspberries and Black Currants so much injured, the tips of many of the shoots being killed outright. Strawberries and Cherries being late in blooming escaped and have been an average crop. *John Wallis, Moore Gardens, Newcastle-under-Lyme.*

WARWICKSHIRE.—This is a most disastrous year. Fruit, with the single exception of Strawberries, being below the average, and in the case of Apples nearly a total failure; of Pears, Plums, and Apricots, very few; Peaches where the trees were covered with protective materials, an under average crop. Bush fruits are here a complete failure, although a few miles off Currants are abundant. *James Rodger, Charlecote Park Gardens, Warwick.*

— During my experience of more than fifty years, I have not known fruit crops so bad within a radius of, say, ten miles, as this year. Apples, Pears, Black Currants, Plums, Damsons, Apricots, Peaches, Nectarines, Cherries, and Walnuts are quite a failure. *Thos. Masters, Estate Office, Lower Shuckburgh, Daventry.*

— I examined a good many farmers' orchards round about this neighbourhood, and found the whole of the trees of Apples, Pears, and Plums practically fruitless. One, the largest I visited, the farmer told me he had yearly carefully attended to the cleansing and spraying of his

trees; that the fruit buds were all killed long before they had time to open. Walnut trees are also without fruit. Of Filberts and Hazel Nuts there are a few. The fruiting of Red and Black Currants appears to be partial. Raspberries are not at all satisfactory. Strawberries were plentiful and of good quality. Blackberries about our lanes and woods are flowering freely, and promise a good yield should the autumn be one sufficiently genial for their ripening. The rather unusual repeated spring frosts and also mid-summer frosts have much to answer for the decimation of our fruit crops, and much sympathy will be felt for those people whose living in a great measure depends on the fruit yield of their gardens. *W. Miller, Berkswill.*

(To be continued.)

NURSERY NOTES.

MESSRS. SANDER & SONS.

IN the famous Orchid establishment of Messrs. Sander & Sons, at St. Albans, year by year the hybrid Orchids have encroached on plant-house accommodation formerly devoted to other subjects until at present the greater part of the houses are filled with the plants raised on the place, and of which some thousands of magnificent plants of new hybrid Cattleyas, *Laelias*, *Laelio-Cattleyas*, &c., are now in sheath, or showing flower for the first time. In flower also are a large number, especially of the fine strain of *Laelio-Cattleya* × *Bletchleyensis* and *L.-C.* × *Martineti*, examples of which have recently gained so many honours at the flower-shows of the season.

In the preparation of leaf-soil, in which all the hybrids at St. Albans are grown, the plants assume large proportions in a short time, the fine vegetation and flowering quality being due to a wonderful root development which the potting material used and the careful culture given the plants induce. Flowering for the first time is a pretty light-coloured variety of *L.-C.* × (*C. Schroderæ* × *L. glauca*), a new cross between *L. tenebrosa* and *L. crispata*, and others.

Eight warm-houses, entered from the corridor, contain new hybrid *Cypripediums* in all stages, from the smallest seedling to the flowering plants, one specimen of *C.* × *Lord Derby* being over 2 feet across. An adjoining house contains the collection of named rare varieties of *Cypripedium* insigne; and in a warmer one are good specimens of *C. callosum* Sanderæ, *C. Lawrenceanum* Hyeannum, *C. bellatulum* album, and other rare kinds, some of which bear cross-fertilised seed-vessels. Crossing and raising hybrid *Phalenopsis* and *Odontoglossums* is being actively pursued, and already some very interesting results have appeared. One house is filled with hybrid *Phaius*, the result of intercrossing all the species available, and many are in bloom. *Phaius Humbloti* has been much used, and some good forms of the species are still in bloom. Among a number of hybrid *Sobralias*, *S.* × *Dellense* shows itself to be a very free-flowering and pretty variety.

That hybrid Orchids can in time be grown to form as fine specimens as large imported masses is proved by some now, and recently, in flower at St. Albans, and among which are *Laelio-Cattleya* × *Canhamiana* with eighteen flowers; specimens of *L.-C.* × *Martineti* with from twenty to twenty-five flowers, and others of different hybrids of equal beauty.

A large number of houses are still filled with imported species. Some ranges of good *Odontoglossums*, chiefly *O. crispum*, have yet many in flower, and in the cool-houses batches of *Masdevallias* give bright colour. One house is filled with *Miltonia vexillaria* just over bloom. With the showy kinds are a number of pretty botanical species, including *M. triaristella*, *M. trichate*,

M. muscosa, and the curious Brazilian *M. Forgetianum*. A long range contains thousands of plants of the showy forms of *Cattleya*, the larger number being of *C. labiata autumnalis*, which is in great demand for cut flowers. A very long house is filled on one side with a large importation of *Dendrobium Wardianum*. *Vanda cœrulea*, imported in large quantity this year, came in fine condition, and are now well established.

Among the rare *Cattleyas* in flower is a very handsome and distinct form of *C. Warscewiczii* with white flowers, the labellums having a delicate marbling of rose-purple. White forms of what is often called *Cattleya gigas* are very uncommon, and this seems to be one of the most delicately tinted.

Among other pretty things noted were the white and crimson *Pachystoma Thompsoniana*, some neat plants of *Promœna citrina*, *Cirrheæ Warreana*, and other curious species; and in the new plant-houses, *Nicotiana Sandera*, which is one of the most beautiful and useful flowering plants of recent introduction, seemed to fill the house set apart for it with its profusion of magenta-crimson flowers. *Asparagus myriocladus* was very beautiful; and the variegated *Selaginella Watsoniana* seemed to indicate that it would be grown extensively when it became better known.

THE RESTRICTION OF THE FOLIAGE AND SHOOTS OF THE GRAPE-VINE.

THE writer had this question to settle lately—whether it would be advantageous to permit some young spring-planted Vines to make an almost unrestricted growth, or, on the other hand, whether it would ultimately, as well as immediately, prove more beneficial to restrict growth solely to the young canes. It may be of interest to detail the reasons that induced an adherence to the latter method. The root-range when borders are completed is rather contracted, and for that reason each Vine has laid upon it the duty of producing several rods, thus securing to each a fair proportion of border. Again, the soil obtainable is so sandy that exhaustion looms before one in the near future, and thus the desirability of limiting the output of roots is forcibly apparent. I am reckoning on a three-foot wide border of sandy soil somewhat liberally strengthened with certain manurial agents to meet efficiently all the wants of the Vines for two years. Top-growth is rigidly restricted to the number of canes required to furnish the house with fruiting-rods, and the only foliage on these canes is one leaf to each bud. I have been so curious as to examine the borders to discover what progress the roots have been making. Perhaps the nature of the soil may have had an influence, but I thought it very remarkable that what are known as quill-like roots, which it is well known perish during the resting period, are not to be found, but quantities of very fine roots that branch off from the leading ones, in some placed like matted network. The further question suggests itself—Is there anything to be gained under any conditions through allowing Vines to ramble at will, and produce sometimes more growth and foliage than it is possible to arrange within the limits of the available training-space? Or, to put it in another way—Is the benefit supposed to accrue to young Vines from unrestricted growth, with its consequent rush of roots through the borders, of actual value to the future of the plants? From one point of view it is apparent that the system is radically faulty in using up the border more rapidly than the requirements of the Vines call for. Of course, as supposed available assets, there is the extra stored-up sap ready to come into action on the renewal of active growth; but its value is more problematical than assured.

It is, moreover, clear that once concede the point that there is a saving of soil—and may it not also be said of vitality in the Vine itself?—by restricting growth and foliage to the lowest limit, that what is suitable for Vines in the earlier stages of growth must be equally so in maturity and age. It is very apparent to those whose visits to gardens are rather extensive that in not a few of them there is a tendency to restrict foliage more than formerly, every leaf being accorded space to secure whatever of sunshine and light and air is going. It is also certain that this practice does not lessen the fertility of the Vines or the quality of the Grapes—even the popular theory that a thin covering of foliage, though essential to the finishing of white Grapes, is detrimental in the case of black ones, being open to discussion. A light crop of foliage can certainly be said to be distinctly beneficial as regards wood and bud ripening, and in the matter of insect appropriation, a hard, sun-lightened leaf is by no means a feeding-ground that either thrips or red-spider care to attack. And as regards mildew, I should say it would be impossible for it to grow at all.

There is nothing whatever in these theories, correct or not, at variance with what we know obtains in the case of other fruits. Take so common a fruit as the Gooseberry, train it as a cordon, thus giving it the essential of light and air, and we secure large crops, almost certain year after year, of the very finest quality fruits. The same thing obtains in the cases of the Apple, Pear, Plum, and Peach—limit the shoots to the merest requirements of the space to be covered, and we seldom fail in obtaining the best results. Need it be added that the same principle extends to plant-culture in pots, e.g., the *Chrysanthemum*; to flowers in borders, note the common *Dahlia*, *Marigold*, or *Aster*; to vegetables, as, for instance, the *Cucumber*, *Vegetable-Marrow*, *Tomato*, down to the commonest herb. Why not then to the Grape-vine? B.

SUNNY HILL, LLANDUDNO.

IN the *Gardeners' Chronicle*, December 22, 1900, an illustration of the residence of Joseph Broome, Esq., was given, together with views in his beautiful rock-surrounded garden; and at different times we have remarked on the luxuriance of the many showy subjects contained in it.

ORCHIDS.

These plants continue to fill the greater part of the glasshouse accommodation, and the greater proportion of them are in very satisfactory condition, the *Odontoglossums* being especially remarkable for vigour of growth and floriferousness. In the two cool houses devoted to these plants there is a fine show of the best type of *O. crispum*, the main portion of which seems to be later to bloom than is the case in some places, and the quality of the blooms much finer than those usually seen at this season. The greater part are of the large-flowered, white type, but there are some spotted varieties; and one very promising blotched form of *O. c. Lehmanni* is in bud. There is also a good show of flowers on the fine plants of *Odontoglossum luteo-purpureum*, one of which has a nine-branched spike carrying more than fifty flowers; *O. aspidorhinum*, and the now uncommon *O. cristatellum*, are good; and *O. cirrosum*, *Epidendrum vitellinum*, a brilliant batch of *Masdevallias*, cool house *Oncidiums*, &c., materially assist the display.

CATTELYAS AND LELIAS

flower most profusely, and it is remarkable that although the plants do not grow nearly so large as in some collections, they give a larger proportion of flowers. The flowering of *C. Mossiæ* and *C. Mendelii* is nearly over, and the best

display is now made by the *C. Warscewiczii* varieties, which, like the rest of the *Cattleyas*, are no doubt induced to flower so freely by the clear air and bright light with which the district is favoured even in the dull season. One fine specimen of *C. Warscewiczii* in a comparatively small pot has three spikes, one of seven and the other two of five flowers each.

An example of the light-coloured "gigantea" class has a good show of magnificent flowers, and even the smallest plants are flowering well, and several have five or six flowers on a spike. There were also noted *C. eldorado Wallisii*, *Anguloa uniflora Turneri*, *Lælia tenebrosa*, *L. purpurata*, *Miltonia vexillaria*, *Odontoglossum hastilabium*, *Oncidium juncifolium*, *Phalænopsis amabilis Rimestadiana*, a large specimen of a fine bluish-white *Sobralia*, and various other interesting things, including a number of *Cypripedium Curtisii*, *C. Mastersianum*, *C. bellatulum*, *C. × Swanianum*, *C. × selligerum*, *C. Parishii*, &c., in bloom. Mr. Broome is one of our oldest Orchid-growers and gardeners, and many years ago, when at Wood Lawn, Didsbury, took a leading part in horticulture in the Manchester district, where, despite his present success, he produced in the favourite plants of that time far finer examples than have been seen recently, and among which may be cited the noble specimen of *Vanda teres Andersoni* with 250 flowers, and which was illustrated in the *Gardeners' Chronicle* at the time.

THE PLANT-HOUSES.

One small warm-house is nearly filled with fine specimens of *Eucharis grandiflora*, which every year produce a fine show of flowers. *Stephanotis grandiflora* and *Cape Gooseberry* grow on the roof. Others have stove plants and Orchids growing together; and in one, the singular *Aristolochia ridicula* and *Gloriosa superba* are in bloom. The cold greenhouses have a fine display of *Malmaison Carnations*, *Francoas*, *Kalanchoe flammea*, some profusely flowered *Fuchsias* (of which the very handsome double *Phœnomenal* was the best), showy *Petunias*, Ivy-leaved *Pelargoniums*, and other flowers.

THE OUTDOOR GARDEN.

Although sheltered by the Lesser Orme Head, the more distant Great Orme, and other rocks, some of which rise directly behind the garden, the site is at times swept by strong winds; hence Mr. Broome has arranged a series of gardens, each hedged in by *Roses*, *Penzance Briars*, *Privet*, *Fir-trees*, and other subjects which give shelter to the plants. Evidence that it has been a very peculiar season, not continuously good for gardening, is seen on the trees all around the district, the unusually early growths and leaves having perished from cold in April and May, and for some time the damage must have made them very unsightly. Now, however, a new growth has been made, and although in the fields and on the rocks the damaged and the perfect foliage is seen together, in the garden the unsightly, injured growths have been removed. Nevertheless, notwithstanding the care which Mr. A. C. Axtell, the gardener, gives to his charge at Sunny Hill, there is evidence that with some subjects he has had more than the usual trouble, and with less satisfactory results. For example, the tuberous *Begonias*, which at this season have in other years filled the beds with brilliant flowers, are only now commencing to bloom; the *Gladiolus* and many other plants are more backward; and the outdoor beds of *Tuberose*, which in former years have sent up spikes very freely, have this year so far only sent up a few. The crowns, however, are vigorous, and will be lifted to flower late in the year under glass.

The first little garden entered had a fine show of *Roses* and other flowers, *Rosa rugosa* in large

bushes being very effective. The bank above in front of the house is kept as a natural garden, the grass being planted with Crocuses, Daffodils, and other bulbous plants, and the steeper part with *Hypericum* and *Vincas*.

The next, a sunken garden, has the large specimen of Crimson Rambler Rose which formed the Supplement of the *Gardeners' Chronicle*, December 22, 1900, in the centre. It is good this year, but not nearly so fine as it has been in better seasons. The Tea Roses, the beautifully-tinted purple foliage of which admirably sets off the flowers, are well in bloom; and large masses of *Galega officinalis alba*; *Alstroemeria aurea*, which, not content with filling the bed, comes up in the walk; showy *Aster speciosus* and other large-growing perennials, and on the wall on one side an enormous *Ceanothus rigidus*, which annually produces hundreds of heads of blue flowers. Around the garden rockeries are arranged plants with Alpines; *Veronica prostrata*, *Gentiana septemfida*, the *Saxifragas*, *Genista tinctoria flore-pleno*, and other things form great masses of bright colour. In several places in the garden the *Edelweiss* forms dense masses, and is quite at home; so also the hardy *Cypripediums*, and some other subjects which are not generally satisfactory in gardens.

In several sections of the garden Carnations are the chief feature. In one the beds are edged with *Statice Armeria*, which give effective colour. One little garden has *Liliums*, in the hedge *Spiraea ariæfolia* sending out immense sprays of cream-white flowers, and S. Antony Waterer a profusion of bright rose blooms. Sweet Williams make large patches of colour, and *Phloxes*, *Delphiniums*, and other summer flowers are at their best. In some of the sheltering hedges great masses of *Fuchsia Riccartoni* show more flowers than leaves; *Rosa polyantha* is equally profuse; *Deutzia crenata flore-pleno*, *Choisya ternata* and *Philadelphus coronarius* appear to advantage, and other of the larger-growing flowering shrubs are used, and in addition to giving their show of blooms in season, assist in protecting the less robust things planted within.

THE KITCHEN GARDEN

and fruit trees planted in different parts of the garden also indicate the peculiarities of the season. Some things which would in the ordinary course be now in perfection are only beginning to turn in. Of Plums, there may be said to be no crop. Apples are irregular, some of the trees having none, while others are heavily laden with fruits.

The natural rocks behind the kitchen garden are scarcely less beautiful than the garden itself, its velvety grass and moss being thickly set with *Helianthemums*, dwarf wild roses, *Geranium sanguineum*, and other wild flowers. The floral decorations in the dwelling-house illustrate the beauty of grouping Carnations and *Francoas* in the hall; and in the drawing-room, in which is a fine collection of water-coloured drawings, a group of *Kalanchoe flammea* and some cut *Orchids* are bright and effective. Outside the window is a little cot, from which *Cocoa-nuts* with holes in them are suspended. A colony of several kinds of "Tits" continually pass in and out of the interiors of the nuts, which are renewed as the contents are cleared out by the busy birds.

HOME OF THE COCOA-NUT.—According to the recently-published statement of the official in charge of the *Cocoa-nut* trees of the Federated Malay States, the land everywhere along the coast of Selangor and for miles inland is most suitable for these trees—a perfect home for *Cocoa-nuts*. The trees come quickly into bearing, produce grand crops, and, owing to soil fertility, absolutely require no manure. Truly it would be hard to find a more fitting locality for the growth of the Palm.

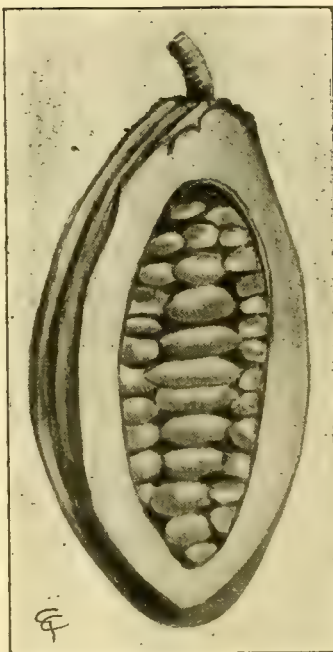


FIG. 46.—CACAO FRUIT WITH PORTION REMOVED SHOWING SEEDS.

CACAO OR COCOA (THEOBROMA CACAO).

THERE are but few plants that have had such a varied range of usefulness and established such a rapid reputation and popularity in so short a space of time as the *Cocoa*, or, perhaps more properly, the *Cacao* plant (*Theobroma Cacao*), and probably no plant has ever had the

distinction of playing such an important part as a social reformer, for in this latter respect everyone knows that, in the hands of Messrs. Cadbury, a new and model village has sprung up near Birmingham under the name of Bourneville, which will ever be associated with the celebrated plant from the forests of the Amazon and Orinoco basins.

That everything connected with the preparation of food products and beverages should be of the cleanest and most healthful character is most important, and the situation and surroundings of Bourneville specially tend to that direction, for the *Cocoa*-seed now enters so largely into the composition of the choicest confectionery that its manufacture into the thousand-and-one forms now seen in commerce has become almost one of the fine arts; and a *Cocoa* village, so to speak, in the midst of pleasant surroundings has no doubt assisted in bringing the product itself, upon which the villagers gain their livelihood, more prominently before the public.

Though the value of *Cocoa* as an article of food in Europe is by no means of recent origin, its development to the extent it has now assumed may be dated back not farther than ten or fifteen years. Its popularity is due to a great extent to improved methods of preparation, by which a cup of *cocoa* or chocolate can now be made in a very few minutes, which, less than forty years ago, took at least half-an-hour to extract by boiling the properties of the *Cocoa* nibs. To meet the increased demand the *Cacao*-tree has become widely cultivated in most tropical countries. Amongst the British West Indian Islands, Trinidad has always stood in a foremost position for the quality of its *Cocoa*.

In Sir Daniel Morris's *Report on the Economic Resources of the West Indies*, he states that *Cacao* cultivation has been established in Trinidad from its earliest days. The total area under regular cultivation in 1879 was 24,153 acres, and though the average at the time the report was written was not given, it was estimated at a considerably higher figure. In 1881 the exports of *Cacao* were of the value of £266,613, which had increased in 1895 to £620,634.

In Jamaica the report said that *Cacao* cultivation was introduced by the Spaniards, and in 1671 there were sixty-five walks in bearing, and many new ones in cultivation. These had practically disappeared soon after the English occupation, and the present cultivation was not more than thirty years old. In 1876 the value of *Cacao* exported from Jamaica was only £1,286, which had increased in 1896 to £17,528. In most of the other islands *Cacao* has been cultivated with more or less success, besides which it has been successfully introduced into Ceylon, as well as into British India, where it is said trees raised from seed come into full bearing at the age of five or six years, after which period they yield about 150 lb. of seed annually.

For the successful cultivation of *Cacao*, besides the requisite soil and climate, an equable and regular rainfall, as well as some protection or shelter from prevailing winds, are necessary. If shade-trees are required, they should be put in the ground either before or at the same time as the *Cacao*-plants, if they are intended to provide temporary shade for a few months. In the West Indies, Bananas and Plantains are put one between each *Cacao*-plant, and these last for two or three years; while permanent shade-trees, which are chiefly hard-wooded plants, are placed at distances of about 40 feet, and in three or four years afford a permanent shade. By giving ample space between the *Cacao*-plants, many other plants of a useful character may be planted between them without impoverishing the ground during the first two or three years. They assist in keeping the ground cool and moist and free of weeds. In planting belts of trees around plantations as a protection against winds, such



FIG. 47.—STEM OF CACAO WITH FRUITS AND FLOWERS.

trees should be of some economic value, so as to give some return.

Although a Cacao-tree is in fruit more or less all the year round, the seasons when the crops are most abundant are in May and June, and October and November. The quality of the Cacao-beans or seeds depends largely on the variety, of which a large number are in cultivation, known chiefly by the form, size and colour of the fruits. Cacao-seeds contain naturally about half their weight of oil or fat, known as Cocoa-butter, which is expressed; and in consequence of its sweetness and freedom from rancidity, is largely used in medicine in the preparation of suppositories, as well as in ointments, cosmetics, coating of pills, &c.

Commercial cocoa of the cheaper kinds are mostly composed of a small proportion of the pulverised seed mixed with starch or flour, hence the thickened beverage produced by them. The "Cocoa Essences" or "Cocoa Extracts" of the best makers, being the pure powdered seed, produces a thinner or more fluid beverage, but one in every way more wholesome, nutritious, and invigorating.

Without going into figures as to the increased consumption of cocoa in this country, it will suffice to say that while in 1820 only 267,000 lb. were consumed, at the present time the consumption in the various forms of cocoa and chocolate amount to some 20,000,000 to 30,000,000 lb. John R. Jackson, Claremont, Lympstone, Devon.

To the above note we are fortunate enough to be able to add the comment of Mr. Hart, of Trinidad, now on a visit to this country:—

The illustrations which we publish to-day are singularly alike in character and appearance, although one is English, the other is truly West Indian. They represent some of the work of the great English firm of Cocoa manufacturers, the Messrs. Cadbury of Birmingham. This firm has within recent years become the proprietors of a valuable Cacao estate in the Maracas Valley, Trinidad, where, we learn, the same care which has always been shown for the interests of their employes in England has also been extended to their West Indian staff. In this way the Messrs. Cadbury have set an example for good to the manufacturing world, for they try to do all in their power to elevate and render happier the lives of all who are employed in their service. In Trinidad, we learn that the firm has voluntarily introduced many beneficial reforms, and the policy adopted is likely to have important results owing to the unostentatious and thoroughly liberal manner in which the projects are conducted. They are leading also in the recent effort at fruit production into Trinidad, by selecting and planting on their estate the finest class of tropical fruit-trees it is possible to procure. The advent of Messrs. Cadbury into Trinidad has been welcomed by all who have interests in that Colony, and the wish is freely expressed that firms of similar standing would come and do likewise.

The West Indian stream represented in the Supplementary Illustration is known as the Maracas River, which, followed to its source, leads to the foot of the Maracas Falls, where a mountain stream falls over a precipice some 300 feet in height. This spot is a favourite place with American and English tourists, for in few places in the Island can such luxuriant growth of tropical vegetation be seen within such easy distance of the port of landing. It is truly a tropical treat, and once visited is not easily forgotten. The Cacao-tree, to call it by its original name instead of the modern or trade name of Cocoa, flourishes best in humid valleys, and in the district in question the plant may be observed growing in the greatest luxuriance. The crop is generally continuous, as the fruit ripens through a greater part of the year, and provides suitable employment for the people at remunerative rates. The district is a healthy one, and malarial fever, common in many other districts, is not in any way a prominent disorder among the inhabitants of the Maracas Valley. J. H. Hart.

ROSES IN BENGAL.—The Directors of the Agricultural and Horticultural Society of India have determined to give up the attempt to cultivate Roses in the climate and soil of lower Bengal.

CULTURAL MEMORANDA.

SHOW, FANCY, AND DECORATIVE PELARGONIUMS.

DURING the present month, and preferably in the first fortnight, the propagation of Pelargoniums of the classes named should be undertaken, a moderate increase of the stock being always desirable, from the fact that some of the older plants must be thrown away on account of their inconveniently large size, or for other reasons. The best sort of cuttings are made from well-matured portions of the current season's shoots. They require to be cut through just under a joint, to be furnished with a few leaves, and to have a length of 4 to 6 inches—a heel of old wood is unnecessary, and is rather a hindrance than otherwise to rapid rooting. Place the cuttings in sandy loam to the number of three to six in 4-inch flower-pots, and stand the latter on a sunny shelf in a greenhouse-pit, or the greenhouse itself, affording no shade. Afford water copiously to settle the soil about the cuttings, and afterwards but seldom till roots are formed. A light syringing on warm days is beneficial. In three or four weeks the cuttings will be rooted, and may then be potted singly and treated like the older plants.

The Week's Work.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Lælio-Cattleya elegans × *L.-C. Schilleriana*.—This plant, being a hybrid, is rather inconsistent in its flowering season, but the majority of the plants flower soon after growth is completed; and when this happens, as it usually does at this season, the best flower-spikes are obtained. The plant, when healthy and vigorous, will sometimes start to grow again immediately, and should this happen growth must be encouraged so as to complete it ere winter sets in. These *Lælio-Cattleyas* should be afforded abundant moisture at the root whilst in active growth, and but a very small quantity whilst resting. Repotting, &c., should be performed when roots are being emitted from the last-made pseudo-bulb; and the compost used should be of a porous nature, using the same ingredients as previously advised for *Cattleyas*. The pots should be well drained, and the plants placed on the stage at the warmer part of the *Cattleya*-house, and where there is plenty of sunlight.

Lælia præstans, *L. pumila*, *L. Dayana*.—These short-bulbed *Lælias*, if they were potted as previously advised, will now be established and making growth, and should not be stinted of moisture at the root. A very light position should be afforded them, so that their new growth will mature properly. Let the plants be freely syringed morning and afternoon, weather permitting.

Lælio-Cattleya hybrids.—The cultivation of *L.-C. Digbyana* Mossiae, *L.-C. Imperatrice de Russie*, *L.-C. Thorntonii*, *L.-C. Maronæ*, does not differ much from that of *L.-C. hybrids* in general. The first two named should receive attention at about this date. Although forming roots fast, the plants should not be afforded very large pots or baskets, and they should be suspended in a moist, warm house, and be removed to cooler quarters when their growth has finished.

Deciduous Dendrobiums.—The present season has not been everything that could be desired by cultivators of *Dendrobies*, much more fire-heat than was good for the plants having been needed; still most of these plants grown at Westonbirt have made satisfactory growth, and should sunny weather occur during the autumn the new pseudo-bulbs will mature, and afford plenty of flower later on. Many species are finishing this season's growth, the earliest to do so being *Wardianum*, *crassinode*, *aureum*, and the hybrids *D. xantho-*

centrum, *D. Cybele*, *D. Clio*, *D. Aspasia*, and others; and when the end leaf on a stem or pseudo-bulb is fully developed, the plants should be removed to the *Cattleya* or similarly heated house, where more air and light are afforded, but on no account exposing the plants to bright sunshine or ventilating them excessively until inured by degrees to the air and to full sunshine. As the pseudo-bulbs ripen the leaves will turn yellow, but they should not therefore be removed, but allowed to fall naturally. After the growth of the plants is ended for the year, water should be afforded more and more sparingly, not cut off all at once, otherwise the plants will again start into growth; moreover the roots are still active and in need of moisture. All other *Dendrobiums* still growing should be encouraged, so that growth may finish before the days get much shorter.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq. Dropmore, Maidenhead.

Out-of-door Vines.—The generally heavy rainfall has induced Vines to make very strong growth, and the stopping of lateral and sub-lateral shoots will require much attention at the hands of the gardener; and the berries should be thinned forthwith. The *Royal Muscadine* has small berries, and will not require much thinning. It is well to keep the bunches away from the wall with a cleft-stick. If the soil is of a light nature, water and manure-water may be needed, the latter well diluted; and a sprinkling of Thomson's Vine-manure will do good. If mildew appears on the Grapes, syringe forthwith with a mixture of flowers-of-sulphur, at the rate of 5 oz. to 4 gallons of water, a small quantity of soft-soap being added to make it stick. Mix the soap and sulphur into a paste before adding the water, and keep it well stirred whilst using it, and wash it off with clear water twenty-four hours later.

Apples.—The *Codlins*, if heavily cropped, should have the fruits thinned, the thinnings being used in the kitchen.

Pears.—The fruits of such varieties as *Jargonelle*, *Citron des Carmes*, *Doyenné d'Été*, and *Beurré Giffard* should be eaten direct from the tree, or at best not stored more than a day or two. Pear-trees on walls and bushes and cordons generally, if carrying fruit, should be protected from the birds, as, owing to the great lack of fruit, they are sure to spoil such as we have. If there are only a few fruits on a tree, it may be prudent to put them into muslin bags.

Red and White Currants trained on walls should be netted forthwith, and the nets kept away from the fruit by means of forked sticks 9 inches long.

Work in General.—Where fruit-tree stocks are grown for budding and grafting purposes—viz., the Broad-leaved Paradise for Apples, Quince for Pears, and the Wild Cherry or Gean for Cherries—these will now be in a suitable condition for being budded. The buds should be inserted 3 or 4 inches above the soil for dwarf, and 6 to 7 feet for standard trees. If the spring grafts are making free growth, remove the clay and moss, but retain the ligatures for a few weeks longer, unless these are cutting into the rind, in which case they must be replaced with fresh ones.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bickton, Budleigh Salterton, Devonshire.

Pelargoniums.—The show and decorative varieties should now have the current year's shoots pruned to within two or three buds of the base, and be placed in cold frames, the soil in the pots kept dry for a few days, and after that space of time syringed night and morning till new shoots appear, and then be shaken out of the soil, straggling roots trimmed, and be repotted in smaller pots than those in which they flowered. Having potted them, let them be returned to the cold frames and be kept close for a week, afterwards affording full ventilation and applying water with discretion. A suitable soil for these plants consists of turfy-loam three-quarters and decayed manure one-quarter, with enough sand as will give porosity to the whole. *Pelargonium*

cuttings may be taken from ripened shoots and dibbled into pans or shallow cutting boxes in sandy soil and be placed under a frame; afford them full sunshine, pot them when rooted, and treat like the mature plants. The zonal section for autumn and winter flowering, if their pots are filled with roots, may receive manure-water twice a week. Pick off all flower-buds for some few weeks longer, and do not allow the plants to root into the material upon which they may be standing.

Richardias.—Where these plants are grown in pots throughout the year, the exhausted soil should be shaken off the roots, and the longest of the latter shortened, and the crowns potted in soil consisting of loam three-quarters and decayed cow-manure one-quarter. Pots varying from 5½-inch to 10-inch will be the most convenient sizes, placing single crowns in the smallest size, and three in a 9-inch or 10-inch pot. Any green foliage existing on the plants may be retained, and supported with a stake. If the plants have been properly ripened, all the foliage will have decayed, and may be removed. Let the pots stand on a worm-proof border on the north side of a wall, and afford water to settle the soil, but no more for several days, even during dry weather, although the syringe may be plied among them two or three times daily. As soon as growth begins anew, remove them to a sunny situation, and afford water when required for the next eight months. *Richardia*-plants which are set out in trenches and are beginning to grow should be well supplied with water in dry weather, clear water sufficing if decayed manure was placed in the bottom of the trench. The stock may be easily increased by potting any small suckers or pieces of the root-stock with a bud attached. The varieties *Little Gem* and the *Godfrey* are very suitable for growing in small pots. Small seedlings of *R. Elliottiana*, the lovely, yellow-flowered variety, should be kept rather on the moist side throughout the winter months, or they will perish, whereas established plants may be kept dry in a greenhouse until the new year.

FRUITS UNDER GLASS.

By T. H. C.

Strawberry-plants in pots.—Let the potting of Strawberry-plants for forcing be finished without delay, keeping those potted later separated from the earlier ones, the latter being the first to be forced. Observe carefully all instructions previously given in regard to the treatment of potted plants.

Runners for next year.—Plant out layered runners for the production of next year's supply of runners in a deeply-dug or bastard-trenched, well-manured piece of land in an open situation, at a distance of 15 inches apart in the rows and 2 feet between the rows, having first made the soil firm and level. In the absence of rain, apply water occasionally till the runners take root.

Pot Vines.—Where ripe fruit is required in March and April, the canes should now be almost mature, with bark of a dark-brown tint, and plump and prominent buds. Assuming that the canes have been gradually inured to the outside air night and day, let the pots be stood on boards or slates in the open on a south aspect, and the canes secured to stakes or other fastenings till the leaves fall, maintaining the soil in a moderately dry condition, so as just to prevent flagging. Pinch-in the laterals of later pot Vines, and promote the ripening of the canes by affording air at all times. Next month these Vines may also be placed out-of-doors.

The Early Vinery.—If forcing is to begin in the month of December lateral growth should be well ripened not later than the middle of September, which in the case of aged Vines is not difficult, if the air of the vinery is kept dry, and plenty of ventilation is afforded night and day without artificial heat, excepting during long-continued dull weather. In any case sufficient moisture must be applied at the roots. Young Vines, which usually grow more freely than aged ones, may require artificial heat always, excepting in very warm weather, and the fullest ventilation; and the border to be kept on the dry side, just enough

water being afforded as will keep the foliage fresh. Laterals must be pinched in closely, and insects kept in check.

Ripe Grapes.—Examine the bunches once or twice a week, removing decaying berries, as one decayed berry will spoil the greater part of a bunch. Black Hamburgs lose freshness and colour if kept on the Vine long after they are ripe, more especially if the vinery is kept very dry. A slight amount of shading on the roof helps to keep the fruit fresh-looking, and may be applied after the berries are fully coloured. Ripe Muscats may have a night warmth of 65° to 70°, with a small amount of air admitted by the bottom and top ventilators, and one by day of 10° to 15° higher, with a free circulation of air.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. Pigott, Bart., Wexham Park, Slough.

Celery.—The main and late crops, even when afforded plenty of manure in the trenches, have their growth hastened if liquid-manure and soot-water be applied at intervals, and a sprinkling of fresh soot once a week when the leaves are wet with dew or rain as a preventative of the leaf-miner. Remove all weeds, suckers, and leaves with split stalks as fast as they can be got hold of. Continue to earth-up the early crop in dry weather, placing just sufficient soil up to the plants, but not burying the tips of the heart-leaves.

Winter Greens.—Those which are well established may be afforded in showery weather a slight dressing of artificial manure if the ground is in poor condition. The later-planted beds should be hoed, and all vacancies filled up. Continue to plant with Coleworts all vacant pieces of ground not wanted for other crops.

Lettuce.—Make a sowing on a south border, and set out the plants when 2 to 3 inches high in any warm part of the garden. If the weather is dry, let drills 2 inches deep be drawn, into which dibble the plants, and forthwith afford water. Stir the soil between the plants in earlier plantations, and do not let them lack water.

Parsley.—Cut back the plants of the early sowings, and if a constant supply is required, let the later sowings be thinned to 6 inches apart, and plant out the thinnings at the same distance apart in cold frames or on spent hotbeds, previously making the soil quite firm, shading and syringing the plants until they are established; after which admit plenty of air, removing the lights in fine weather.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Amaryllis belladonna.—These bulbs at Shipley are retaining their leaves rather late, still the bulbs should now be sufficiently ripened to lift, and early planting is of considerable help to them. The best preparation for them in a cold soil is to well drain a narrow border at the foot of a south wall, and all the better if it be the wall of a hot-house, and plant them one foot deep in a mixture of soil, sand, and brick-rubble. *Sternbergias* too should now be planted, the narrow-leaved form of *S. lutea* being by far the better one for general culture as it flowers with greater freedom than any of the other species.

Kniphofias, Hydrangea paniculata, and Pampas-grass.—The plants should now be coming into spike or flower, and they will be greatly helped by occasionally affording them manure-water.

Plans.—Much unnecessary labour in propagation and much house-room for wintering tender plants may be saved if at this time of the year, when all the plants in question are before one's eyes, making the matter an easy one, a plan for next year's planting could be thought out and decided upon. Very rarely is a flower garden so well planted that no improvements will suggest themselves, and in any case changes in the scheme of planting may be welcomed, as however good a plan may be, if constantly repeated, it is sure to fail to please.

Herbaceous Borders.—Where perennial *Asters*, *Pyrethrum uliginosum*, and others similar, perennial *Sunflowers*, *Heleniums*, &c., are made special features of the borders, much attention

will be called for in the matter of securing the plants against the wind. Let them be so fastened that they will have a natural appearance, and that without bringing the sticks and ties too much into view. In order that the mixed borders may have an air of tidiness remove all faded stems and flowers and encourage the growth of annuals, &c., planted in vacant places so that they will cover as much bare ground as possible.

Cuttings of Roses.—Own-root Roses are much sought after by some cultivators, and usually they have to be raised at home. The stronger-growing H.P.'s may all be raised from cuttings inserted in the open ground late in October, but Teas and weak growers generally must be struck under glass protection before the wood has become quite ripe. Deep, well-drained pots filled with sandy soil should be used, the cuttings taken off with a heel, the tips and lower leaves removed, and the cuttings inserted to at least half their length round the sides of the pots, taking care that they are made firm and there is no air space round or under the cutting. A portion of each leaf—the middle lobe by preference—should be removed. Place the pots in an ordinary frame on a cinder bottom or on a very gentle hotbed, afford water, syringe them daily, and keep fairly close till roots form. They need shade in sunny weather.

Dahlia cuttings.—Small side shoots cut off close to the main stems and inserted singly in 3½-inch pots at this date, and put into a close frame, make excellent if small tubers for planting-out next year. They should be allowed to grow-on as long as they will without drying them off, and be kept in the cutting pots till the spring. For general purposes I find this method of raising plants a good one, and they give earlier flowers than spring-struck cuttings; and, what is worth a great deal, they give much less trouble.

THE APIARY.

By EXPERT.

ALL filled sections should be taken away and fresh ones substituted, and sections which are not properly filled left for a little longer time. If preferred, where crates are nearly filled, an empty crate of sections may be placed underneath those which are filled; and to do this successfully and without killing any bees, raise the full crate and smartly draw a carbolio cloth underneath it to drive the bees down, and place on the empty crate as soon as possible. A little smoke should be given them before commencing this operation. As soon as the crate is finished, remove it by smoking the bees out, or by the use of a Porter bee-escape, which can be placed between the two sections. A new bee-escape has just come into use which should prove a great advantage over the old one, which has only one escape, which often gets blocked with dead bees; the new one has several escapes, which must certainly act a great deal better. Keep all sections in taking out of crate the same way up as the bees have left them, so as to prevent honey in the uncapped cells from running out, and then put them away in a place of safety. All swarms should be returned to the parent-stock if an increase of stock be not desired. If the bees swarm from the sections it means that the work of honey-gathering is stopped for a time, and as the weather is so unfavourable and time brief, they will have small chance of finishing the sections. Swarms should be fed if the rains continue. As a rule swarming bees generally take enough food with them to last three days, it will therefore be wise to feed them on the second day, discontinuing to do so if the weather should improve. The hives should all be numbered; and supposing that No. 1 swarms, and the swarms be placed in another hive—say No. 2—this fact should be recorded, so that you may know at a glance that No. 1, having swarmed, has a new queen, and No. 2, being a new colony from No. 1, has an old queen; by doing this you can easily tell which are your old stocks with new queens, &c. Keep down all long grass about the hives, and place alighting boards where they are needed. Have plenty of water about, so that the bees may drink, small floats being placed in the pans to save them from drowning. A little salt kept in a tin near the apiary is also an advantage. Wrap up swarms well, as they have no full combs of honey to keep them warm.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, AUG. 18.	{ Royal Horticultural Society's Committee Meetings. Lecture on "Hollyhocks."
WEDNESDAY, AUG. 19.	{ Shropshire Horticultural Society's Exhibition at Shrewsbury (2 days). Eastbourne Summer Show.
THURSDAY, AUG. 20.	{ Royal Agricultural and Horticultural Society of Jersey, Exhibition (2 days).
FRIDAY, AUG. 21.	{ Devon and Exeter Horticultural Society's Show. Strathearn Horticultural Show (2 days).

SALES FOR THE WEEK.

MONDAY, AUGUST 17—	Trade Sale of over 4,000 lots of Dutch Bulbs, by Protheroe & Morris, at 67 and 68, Cheapside, E.C., at 10 o'clock—Consignment of L. Harrisii, Freesias, Roman Hyacinths, &c., by Protheroe & Morris, at 67 and 68, Cheapside, at 5 o'clock.
THURSDAY, AUGUST 20—	Trade Sale of 3,000 lots of Dutch Bulbs, by Protheroe & Morris, at 67 and 68, Cheapside, E.C., at 10 o'clock.
FRIDAY, AUGUST 21—	Orchids in variety, at 67 and 68, Cheapside, by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—62° 6'.

ACTUAL TEMPERATURES:—

LONDON.—August 12 (6 P.M.): Max. 71°; Min. 55°.

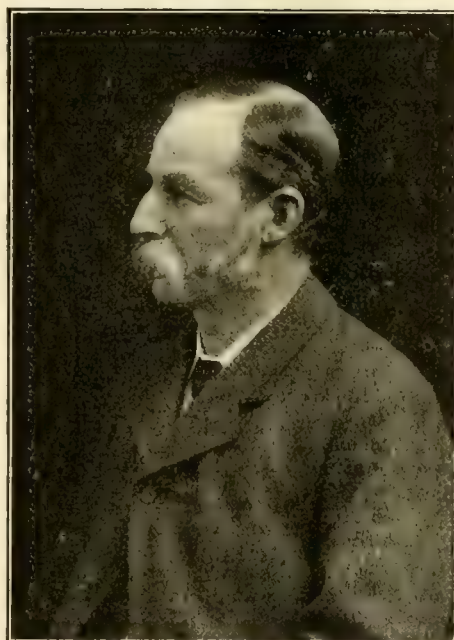
August 13 (Noon): Fine; 86°.

PROVINCES.—August 12 (6 P.M.): Max. 63°, Southampton; Min. 55°, Aberdeen

WHEN a short time since a cardinal of the Romish Church announced to the expectant populace the election of a new Pontiff, the "great joy" experienced was not altogether unexpected. The tidings we have to convey to our readers will fill them not only with gratitude but also with surprise. Horticulturists in general, and the Fellows of the Royal Horticultural Society in particular, will rejoice that in Sir THOMAS HANBURY they have found a munificent and discriminative friend. He has presented to the Society the garden at Wisley, near Weybridge, so well known to a large circle of our readers as the creation of our late friend, Mr. GEORGE WILSON. The news is almost staggering. The generosity of the donor, the peculiar appropriateness of the gift, the opportune season at which it has been made will inspire all well-wishers of the Royal Horticultural Society with a feeling of gratitude and encouragement.

Sir THOMAS HANBURY is the owner of one of the most famous gardens in the world, that at La Mortola, near Ventimiglia, in the Italian Riviera, a few miles distant from the French frontier near Mentone. He has seen that garden—some illustrations from which were, as it happens, given in our last number—spring up under his own eyes. He knows by long experience what are the requirements of such an establishment. He knows that useful for ornament or for study as may be a plant in a pot on a greenhouse shelf, it is far more satisfactory in all ways when circumstances permit us to grow it under more natural conditions. At La Mortola a Mediterranean climate allows of the culture, in the open-air, under the least conventional conditions possible, of a vast variety of plants which in our duller, less genial climate would not thrive unless under protection. But for all that, we can grow in the open a vast variety of subjects of

beauty and interest, and among them some which would suffer in the drier, hotter climate of the Riviera. Recognising these facts, Sir THOMAS has, as we have said, made over to the Royal Horticultural Society the extremely interesting garden lately belonging to the late Mr. GEORGE WILSON, and of which we supply an illustration at fig. 49, p. 123. This is not a garden in the conventional sense, but a place in which plants thrive under the conditions most suitable to them. They are not arranged formally or for colour-effects, as in the dressed garden; they are not grouped according to their affinities, as they would be in a purely botanical establishment, nor are they disposed in groups to show their physiological peculiarities or their modes of life, as is the practice now in gardens intended specially for the use of students; but they are allowed to take possession of those nooks and corners wherein they can grow and display themselves to the best advantage.



SIR THOMAS HANBURY, K.C.V.O.

In such situations their beauty is displayed to the full; they are in harmony with their surroundings; their natural course of evolution is not thwarted but fostered. Of course this is only one phase of gardening—a very delightful one, it is true; but the formal garden, the lawns, the fruit-garden, the kitchen-garden, the arboretum, the trial-grounds, have all to be considered, and their claims in some cases are, of course, paramount. Fortunately at Wisley there is room for all these departments. There are nineteen acres of garden-ground and water, of the general character that we have mentioned; eighteen acres at present utilised as grass-land, and about twenty-two acres of arable land, and two residences on the property. What potentialities does not Sir THOMAS HANBURY'S gift open out!

As for the timeliness of the donation, it will be remembered that a very strong feeling exists among the authorities that Chiswick must be given up, and another garden formed under more favourable conditions. In spite of the historic associations and the powerful sentiments connected with

them, we have had no doubt that this would be a correct line to take in the future, although we have always urged that, as the lease of Chiswick has still several years to run, the duty of the moment is to attend to those matters which are of more immediately pressing importance—to secure a home for the library, adequate offices and meeting-rooms, which are sorely needed, and to make the best of Chiswick till these requirements are satisfied. Sir THOMAS HANBURY'S munificence alters the conditions very materially. The garden at Wisley is made. It can easily be adapted to the requirements of the Society. The additional features that will be necessitated can be added gradually, a small laboratory can be built, the scientific side of the garden can be developed as well as the practical, and the glories of Chiswick—now and for many years past historical rather than actual—can be revived, to the great benefit of progressive horticulture. Chiswick will leave imperishable memories, but there are not many now who will, unless as a matter of sentiment, regret its abandonment.

Wisley is charmingly situated, quiet and out of the smoke of London. Even at Kew the trees suffer from the smoke and fog, so that in the future a new arboretum must be secured. Where better than at Wisley? Wisley is reached from Weybridge by road, and there is a prospect that it will eventually be made more easily accessible by means of an electric tram along the Portsmouth road.

With hope and gratitude therefore we look forward to the future, and we feel, as a consequence of this grand gift of Sir THOMAS HANBURY, the imperative necessity of proceeding as rapidly as possible with the new library and offices. To this end the liberality of Baron SCHROEDER, Mr. ELWES, Mr. SUTTON, Mr. SHERWOOD, and others, still needs to be supplemented by the contributions of the Fellows of the Society, while scarcely less urgent is the necessity for securing a fund for the carrying out the necessary additions at Wisley, and an endowment for its future maintenance.

Foreign Flower Market.

THOSE who have occasion to pass through Tavistock Street, Covent Garden, will have noticed

the steady growth of a large building on the site where houses used to stand. The new building is only one more illustration of the vast increase of the flower and fruit trade done in the market. First, the Floral Hall, originally designed for concerts and similar purposes, was annexed, and is now used as an auction sale-room for foreign fruits. Then the old Hummums Hotel, the Bedford Hotel, and a large slice of Russell Street were requisitioned for market purposes. Then—we are not sure as to the exact sequence of events—the Flower Market was built adjoining our offices. Of this we gave illustrations in our volumes for 1872, p. 177, and July 7, 1894, p. 17.

In this building was held some years ago a unique evening meeting for the benefit of the Gardeners' Orphan Fund. The salesmen and dealers arranged the market with their beautiful productions, and put themselves to no little inconvenience in the hope that visitors to so novel and attractive a "soirée" would give practical evidence of their sympathy with the orphans and of their appreciation of the remarkable sight displayed before them by the self-sacrifice and willing

labours of the exhibitors. Sad to say, the financial results were so inadequate that nothing of the kind has been attempted since. In any case, a visit to the Flower Market in the very early morning is always an interesting and a beautiful spectacle, and one that has special attractions for the statistician and the economist, as showing the vast increase within a few years of the trade not only of fruit, but of flowers.

We have been speaking of home-grown flowers grown in the very numerous establishments in the suburbs of London, as well as at greater distances. But the foreign flower trade has also grown enormously.

A temporary structure was erected to accommodate this department of the trade, but that was soon seen to be totally inadequate. To supply the existing requirements the building of which we now give an illustration, thanks to the courtesy of A. R. O. STUTFIELD, Esq., the steward to the Bedford estate, has been designed.

The length of the structure is 126 feet, the breadth 96 feet. The total area 11,520 feet super; the floor-space 8,444 feet super.

The basement will be used for stores, as in the case of the foreign fruit-market (the old Floral Hall). The ground-floor space will be utilised by wagons, for convenience sake, and also to relieve the congestion in the neighbouring streets.

The market for foreign flowers will be on the first-floor. Here there will be eight rows of counters and tables for the display of the produce, removed by a lift from the vans on the ground-floor. Provision is also made for numerous offices for the firms doing business in foreign flowers.

The façade shown in our illustration is that on the north side, facing the market. The construction is of red brick with stone facings, with iron pillars and girders, and ample provision for light. The architects are Messrs. LANDER, BERDELL & CROMPTON.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Floral and Fruit Committees of the Royal Horticultural Society will be held on Tuesday, August 18, in the Drill Hall, Buckingham Gate, Westminster, from 1 to 5 p.m. A lecture on "Hollyhocks" will be given by Mr. WEBB at 3 o'clock.

At a General Meeting of the Society held on Tuesday, August 4, twenty-five new Fellows were elected, among them being Sir JOSEPH GORE-BOOTH, Bart., Colonel the Hon. G. NAPIER, Major-General H. H. LEE, and Major BERNARD J. PETRE; making a total of 1,070 elected since the beginning of the present year.

DAHLIA SHOW, SEPTEMBER 1 AND 2.—The Royal Horticultural Society will hold a special exhibition of Dahlias on September 1 and 2, in conjunction with the National Dahlia Society, in the Drill Hall, Buckingham Gate, Westminster. At this meeting only Dahlias can be shown, with the exception of flowers, fruits, &c., for certificate. All Dahlias, including those shown for certificate, must be left on exhibition until 6 p.m. on the second day, but other plants may be removed as usual. For schedule of prizes, see Royal Horticultural Society's *Book of Arrangements* for 1903, pp. 89 to 93; or separate schedules can be obtained on application to Mr. P. W. TULLOCK, Sterndale, New Church Road, Hove, Sussex, Secretary to the National Dahlia Society. A lecture on "Judging Cactus Dahlias" will be given on September 1, by Mr. C. G. WYATT, at 3 o'clock.

THE FLORAL COMMITTEE.—On the 4th inst. I placed before the Floral Committee, on behalf of the raiser in Scotland, one of the most beautiful varieties of Lady Fern known to me, a quite distinct form from any others, and one of the gems of that sportive species. There was no question of its being merely a botanical curiosity, as it was perfect in its symmetry, yielded equally good forms from its spores, and, in short, by all who know anything about British Ferns, it is recognised as a charming thing. I naturally proposed an Award of Merit for it, which was seconded; and yet of fifteen members present seven refrained from voting at all; five voted for, and three against, so that under the new and salutary rule of a two-thirds' majority, the plant failed to obtain an award. This is not the first time I have been similarly surprised. Some time back I sent in another Lady Fern, found by myself in Ireland and recognised by competent judges as the best of all wild finds of cristate form. It is distinguished by very long, pendulous tassels, divided and redivided to the utmost; its habit is robust and erect, and there is absolutely no other variety which equals it on its own lines or resembles it at all closely. That too failed to obtain recognition; and all I could gather as to the causes of its disqualification was that "there were so many like it" (a proof of absolute ignorance). I have not been studying British Ferns for a quarter of a century without knowing something about them, nor am I by any means one of those who think that my own geese are necessarily swans, nor in either case did I depend entirely on my own judgment. I had the opinions of others before exhibiting, hence I am forced to the conclusion that the disqualification in both cases was simply and solely their British origin. A remark was indeed made in the more recent case that the plant was not a "market one." If this be the reason it is a ridiculous one, since, given recognition, there is no reason why it should not be propagated for the market. Moreover, the Floral Committee is not, or should not be, a mere trade committee to determine what is marketable, but should recognise merit whether marketable or not. Does the Orchid Committee act on such lines when an unique hybrid worth hundreds of guineas is put before it? I fancy not. So far as the non-voters are concerned, I can quite understand a man's refraining from voting when he knows nothing of the plant's family, and elects not to back another man's opinion, but what puzzles me is that men in the same position vote against those who are recognised as possessing the requisite knowledge, and thus nullify it. The net result is that British Ferns are relegated to the background, while exotics of no greater and often of less merit find ready recognition, exemplifying the old adage that a prophet has no honour in his own country. This should not be, and although I am on the Committee myself, I have no hesitation in openly signing myself as a protesting member on behalf of the British Fern cult. Chas. T. Druery, F.L.S., V.M.H.

GIFT TO WARRINGTON.—Through the generosity of Mrs. JOHN CROSFIELD the town of Warrington, in addition to the beautiful park presented by the late Mr. CROSFIELD, is now further enriched by the addition of a handsome conservatory, and still more valuable, the magnificent pyramid Camellias (which, under the able direction of Mr. W. KIPPS, were the adornment of Walton Lea, and perhaps amongst the finest cultural examples in the kingdom) have also been planted in the conservatory. At the opening, presided over by the Mayor (Mr. J. C. PARK), Mrs. CROSFIELD spoke of the interest the late Mr. CROSFIELD took in the Camellias, which, she was glad to say, had, with two exceptions, been removed safely to their new home by the head

gardener of the park (Mr. PARKER). She hoped to see Warrington with its winter gardens, and in concluding expressed the hope that her gift might be of use to the poorer townspeople. The Mayor at the conclusion presented Mrs. CROSFIELD with a handsome silver Rose-bowl.

PLANT PROTECTION IN AUGUST.—Set traps for caterpillars destructive of the fruit of the Apple, and destroy injurious insects, as in the previous month. When the Hops are gathered burn the remains of the Hop plants, so as to destroy the red spider, which is sure to be present in myriads on the foliage. Orchards under corn crops should have the stubble ploughed under as soon as possible after the harvest, a most important measure from the standpoint of protection from the numerous parasitic enemies of cultivated plants, which are thereby destroyed. Plants affected by mildew should be constantly well dressed with flowers-of-sulphur when the foliage is wet with dew or rain. As a protection against the Phytophthora disease of the Potato, sprinkle the haulm with the Bordeaux-mixture. Plants of Cabbage, Kohl-rabi and Brassicas generally affected with slime and other fungus should be pulled up and burned forthwith. Fusiladium of Pears and Apples may be destroyed by occasional dressings of Bordeaux-mixture, which is formed by decomposing copper sulphate with lime, in the following proportions:—Copper sulphate (blue stone, blue copper, &c.), 98 per cent., 2 lbs.; freshly-burned lime, 1 lb.; water to make 10 gals. Dissolve the sulphate in one half of the water. The lime after being slaked to a fine powder is well mixed with the rest of the water, and then poured into the copper solution and stirred. The vessel in which the mixture is made should be of wood or earthenware, not of metal. To test this allow the copper precipitate to settle, and dip blue litmus-paper into the supernatant liquid. If it remains blue the liquid is safe to use; if it turns red a small quantity more lime must be added, the liquid stirred, and the test repeated until the litmus-paper remains blue when dipped.

MEETING OF THE GERMAN DENDROLOGICAL SOCIETY AT BRESLAU.—We understand that the meeting of the German Dendrological Society was held in Breslau on the 6th and two following days in August. The programme seemed to promise an interesting exhibition, and excursions in connection therewith. The following papers were to be read:—By Dr. F. PAX (of Breslau) on *Aceraceæ*; Professor KOEHN (Friedenau) on the Genus *Amelanchier*; Herr Garteninspektor BEISSNER (Poppelsdorf), *Coniferæ*; Herr Gartenbauinspektor F. GOESCHKE (Proskau), *Experiments in Acclimatising Silesian Plants*; Herr Garteninspektor PURPUS (Darmstadt), *Dendrological Researches*; Herr GRAF VON SCHWERIN (Wendisch Wilmsdorf), the Genus *Sambucus*; Professor SCHUBE (Breslau), *Sketches of Forestry in Silesia*; and Herr Forstgarteninspektor BUTTNER (Tharandt), *Difficulties in Growing young Imported Conifers*.

MELOCOTON.—Under this name we have received a kind of Squash, Pumpkin, or Marrow, which is reported by Mr. E. J. CAMPBELL, of the British Honduras Botanic Station, as coming from Mexico. It is a trailing Cucurbit which gives long, smooth, green fruits a foot in length and 4 to 5 inches in diameter. It is very prolific and makes an excellent substitute for the well-known Vegetable-marrow, which it much resembles when prepared for the table in its immature state. When ripe the fruits turn to a dark reddish-brown tint. It is considered an acquisition to our list of table vegetables. Mr. CAMPBELL describes the fruit as a "rare Mexican Melon of

handsome appearance and good flavour," and says, "It is eaten stewed with sugar, and fresh." *Trinidad Bulletin of Miscellaneous Information*, July, 1903.

"HOLIDAYS IN EASTERN COUNTIES," edited by PERCY LINDLEY. (London: 30, Fleet Street, E.C.)—Veiled, and handsomely veiled, by chatty information and by many attractive pictures, we have here a description of the country intersected by the Great Eastern Railway. As the sketch-map shows, this tract includes districts of great interest, and is in connection with the Continent via the Hook of Holland. Town, country, and sea-side are all available to the intending traveller by this route, and he is told concerning the attractions offered by the several towns, where golf-links and other chances of amusement are to be found. The holiday-maker still uncertain of his destination should consider the attractions here held out to him before finally making up his mind to go elsewhere.

CARNATIONS OF TWO COLOURS ON ONE STEM.—Mr. HOGAN, of The Gardens, Wroxton Abbey, Banbury, sends us a stalk of a Carnation which divides into two branches. One branch bears a flower with rosy-carmine petals, whilst the other branch bears two pure white flowers. We have seen such cases before in Roses, Pansies, Chrysanthemums, and other flowers, some of which have been figured in our columns. It is hard to say why this happens. If we call it a reversion to an ancestral condition, we do not explain it.

THE ENGLISH FLOWER-POT.—The talents of English manufacturers have not been exerted in the improvement of this necessary article in the garden, for the character and class of pot remain the same as they were fifty or a hundred years ago. The result is a loss to English trade. A buyer of considerable quantities in one of our Colonies assures us that he has long ago given up the importation of English makes, as the loss in transit, owing to the form of pot adopted, is, he assures us, as much as 60 per cent., while the loss when importing improved American forms is only some 3 or 4 per cent., and the price paid is the same. In the old form, no matter how carefully packed, one pot acts as a wedge inside another, and when a dozen or more are stood on end, the bottom pots are burst by the weight of those above them. In the American form this is obviated by the rim being made wider, the lower edge resting upon the rim of its neighbour. No English pots are therefore imported, and the English maker will shortly have no export trade at all unless he is sensible enough to alter his pattern, which does not cost any more to make than the pots of our grandfathers. [On the Continent pots are made on the American plan above described. ED.]

STOCK-TAKING: JULY.—The Trade and Navigation Returns for the month of July, just issued, present no very unusual features of interest. There is an increase in the recorded value of imports, and a small decrease in the figures representing the value of exports; and here it is worthy of notice that the values relating to both sides of the national account are too often arbitrary—not official, and we are assured that the total value of exports is compiled from nothing more reliable than the estimated prices placed upon goods by shippers; the Customs authorities merely record the stated values for statistical purposes. This is practically the case with untaxed imports. The value of these has to be excluded at the time of entry, but the Customs officials' only responsibility for these returns is simply the correct transcription of the figures passed to them over the counter. To proceed, the value of last month's imports is £45,653,320, against £44,086,960, showing an increase of £1,566,360. Among the items of increase are to

be found grain and flour; other food increments foot up at £921,266. The following figures are of value here:—

IMPORTS.	1902.	1903.	Difference.
	£	£	£
Articles of food and drink—duty free	9,829,968	10,268,913	+438,945
Articles of food & drink—dutiable	8,587,727	11,131,149	+2,543,422
All other Imports...	25,689,265	24,253,258	-1,416,007

The following figures will be of greater value this month and those to follow, owing to the practical failure of our own fruit crops:—

IMPORTS.	1902.	1903.	Difference
	Cwt.	Cwt.	Cwt.
Fruits, raw—			
Apples	35,786	80,147	+44,361
Apricots and Peaches	8,461	5,810	-2,651
Bananas ... bunches	259,583	270,107	+10,521
Cherries	83,274	46,684	-36,590
Currants	58,991	57,311	-1,679
Gooseberries	13,089	18,130	+5,041
Grapes	12,250	18,855	+6,605
Lemons	149,886	113,571	-36,315
Nuts—Almonds ...	3,695	5,027	+1,332
Others used as fruit	71,360	59,224	-12,136
Oranges	128,268	59,648	-68,620
Pears	5,867	12,323	+6,456
Plums	35,656	30,638	-5,018
Strawberries	15,549	5,001	-10,548
Unenumerated ...	83,173	152,673	+69,501
Vegetables, raw—			
Onions ... ..bush.	615,319	534,190	-81,129
Potatoes ... ..cwt.	1,169,294	1,047,235	-122,059
Tomatoes	164,182	227,361	+63,179
Vegetables, raw, unenumerated ...value	£37,041	£33,561	-£3,477

To those hungering and thirsting after fruit, it will doubtless be interesting to learn that this year's Orange and Lemon crop in California is estimated at 35,000 car-loads. During past weeks there have been large consignments of soft fruit such as Gooseberries, from German growers, through Dutch ports. Glasgow has been selling largely on Irish account in this commodity. A new Orange is making some stir in Natal (the Victoria), the result of cross-fertilisation under the hands of Mr. DAVID BROWN, and first introduced to notice by Mr. J. L. KNIGHT, of Verulam. Mr. BROWN is a well known-experimenter in cross-fertilisation. The result is a fruit girthing up to 15 and in some cases 16 inches in diameter. It is grafted on the Lemon, a very strong and vigorous tree; it is a heavy cropper, stands drought well, and is in full bearing four years after grafting. The fruit keeps well in the house for seven or eight weeks, endures rough usage, is good for shipping, and it is asserted that the fruit stands well on trees for three months after being dead-ripe. Lastly, much of the product is seedless. There! It is worthy of note here that timber and wood imports foot up at some £3,619,586, against £4,077,108 for July, 1902—a decrease of £457,495. The value of the imports for the past seven months is £306,086,900, against £306,790,912—a decrease of £704,012. We come now to—

EXPORTS,

which, for the past month, are valued at £25,875,545. Comparing these figures for those of July last year—£26,029,170—we have a decrease of £153,625. There is some decrease in the export of mineral waters, and of beer and ale; possibly the decrease in the exports of fish, cured and otherwise prepared, also in the number of barrels of herrings, may be held accountable for the "sympathetic" reduction. The value of the exports for the past seven months is £168,398,170, as compared with £161,404,744 for the same period last year, showing an increase of £6,993,426.

THE DÜSSELDORF HORTICULTURAL EXHIBITION.—The complete programme of the Horticultural section of the International Art Exhibition to be held at Düsseldorf in 1904 is now to hand, and gives particulars, not only of the main show, which is to be open from May 1 to October 25, but of various minor exhibitions that are to take place in connection with it. The general exhibition is to be held partly in the open-air, partly in the exhibition buildings. It is to comprise classes for foliage plants, Roses of all habits, Conifers and evergreens (in tubs, pots, or planted out), marsh and peat plants (Rhododendrons, Azaleas, Kalmias, &c.), fruit-trees (either standard or trained in various ways and growing in pots), as well as berry fruit of all kinds; early spring flowers, outdoor Ferns, alpine plants, decorative foliage plants (Palms, Agaves, &c.), and bog and hot-house plants, besides horticultural sundries such as summer-houses, bridges, seats, and general garden furniture. Within the buildings will be housed the exhibits, which will include decorative plants in pots, garden plans and models; the Scientific and Colonial section, industrial and trade products, machinery, tools, implements, and the like. The minor exhibitions are to take place very frequently during the summer. From May 1 to May 9 will be held inside the buildings a show of decorative groups of foliage and of other plants and Ferns, Orchids in bloom, flowering shrubs, bulbs, spring flowers, such as Pelargoniums, Cinerarias, Cyclamens, Carnations, fruit-trees, water-plants, and forced vegetables. Besides this, special exhibitions will be held indoors from May 14 to August 30. These will include blooming and foliage plants, cut flowers, florists' arrangements, fruits and vegetables. From September 3 to 11, the show will include decorative groups of flowering and foliage plants, Orchids, plants of commerce, cut flowers of every kind, ornamental fruits, and florists' specialties. An important exhibition of fruit and vegetables will be held from September 17 to 26, in which will be included Nuts, Grapes, and pot-plants. Chrysanthemums will be shown from October 18 to 23, and special exhibitions of Orchids will be held from October 1 to 17, and from October 21 to 23. These frequent shows throughout the summer have been so arranged by the authorities as to give every horticulturist the opportunity of exhibiting plants of which he makes a speciality, or in which he feels so great an interest that he wishes them to become as widely known as possible. Further particulars, forms of entry, and regulations respecting prizes and certificates can be had on application to the Director of the Art and Horticultural Exhibition of 1904 (Der Vorstand der Kunst und Gartenbau-Ausstellung, 1904), Düsseldorf.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The monthly committee meeting of this Society was held at the Caledonian Hotel, Adelphi Terrace, Strand, W.C., on Monday evening, Aug. 10. Mr. THOMAS WINTER presided. Seven new members were elected, and one other nominated. Four members are receiving sick pay, and eight are on the benevolent fund at the present time. Three other members have been relieved from this fund this year.

THE ROYAL BOTANIC SOCIETY OF LONDON.—The anniversary meeting of the Royal Botanic Society took place Monday, August 10, at the Gardens, Regent's Park. Mr. C. BRINSLEY MARLAY, D.L., who presided, congratulated the Fellows on the improved financial position of the Society. The Practical Gardening School was progressing satisfactory, while the Laboratory for Practical Work in Botany and Horticultural Chemistry was serving its purpose admirably. The introduction of electric-light and the work of developing scientific instruction would entail

considerable cost. He therefore hoped that the Fellows would introduce new members and thus enable the Society to carry on its work.

PUBLICATIONS RECEIVED.—*Bulletin of the Department of Agriculture, Jamaica*, June and July, 1903. Contents: Cocoa, II., Shade for Coffee and Cocoa, Jamaica, Cassava, Four recently-described Ferns from Jamaica, &c.—*Botanical Department, Trinidad, Bulletin of Miscellaneous Information*, July. Contents: A Newly introduced Cucurbit, Plants indicating Character of Soils, &c., March 31, 1903. Details advances in all Stations, and special attention to Sugar, Rubber, and Cotton Plantations.—*Fifteenth Annual Report of the Agricultural Experiment Stations of the Louisiana State University and A. and M. College*, for 1902. A record of industry at all Stations, especially in connection with Sugar-cane Plantations.—*Report on the Botanical and Afforestation Department Hong-Kong for 1902*. The work has been steady and satisfactory, except as regards the herbarium and library, where very little progress has been made. Various additions were made to the Hong-Kong flora during the year.—*Journal of Agriculture of Victoria*, May. Contains reports on: Crops under Irrigation, Australian Saltbushes in California, Hop Growing in Victoria, St. John's Wort as an injurious weed, &c.—*Proceedings of the Agricultural and Horticultural Society of India*.—*Proceedings of the Agri-Horticultural Society of Madras*.—*Report of the Botanic Gardens, British Guiana, 1902-1903*.

HOME CORRESPONDENCE.

CEREUS GRANDIFLORUS.—"The Queen of Night" has flowered splendidly lately at the grand estate of Baron Rozenirn-Lehn, at Orebygaard, in the Island of Lolland, Denmark. The fine flower-gardens and plant-houses are under the direction of the head-gardener, Candidate J. W. Jørgensen, and among his specimen plants may be mentioned some *Cereus grandiflorus* in extraordinarily good condition. There are nine plants, planted six years ago, and some of them were photographed by an amateur photographer, Ingénieur Mengel, at Oreby. The nine plants are planted against a stove wall, and have this year, as last year as well, borne more than 200 flowers. The number of blooms open at the same time in one evening has been the last five years respectively sixteen, twenty-four, twenty-seven, thirty-two, and now forty-two! It was a splendid sight, with which hardly anything can be compared in our northern country. *Carl Hansen, Professor, 28, Hollandervei, Copenhagen, V.* [To Messrs. Cannell & Sons we are indebted for what had been a magnificent flower of *C. triangularis*. Ed.]

RIBES SPECIOSUM.—In the issue of the *Gardeners' Chronicle* for August 1 occurs a short account of this striking and graceful flowering shrub, showing that it is a hardier plant than is usually supposed. We have an old specimen here which confirms this; it is growing as a bush, facing the north, and receives very little direct sunshine indeed, though it is fairly well sheltered by the house, being situated a yard or so from the wall. It flowered profusely this summer, and was an object of considerable admiration. Perhaps it has a liking for shade and moisture, for such are the conditions under which it flourishes here. Our specimen is many years old, and shows no sign of lessened vigour. There is also a smaller one, an offshoot from the old plant, growing quite well in a fairly open easterly aspect. *Ribes speciosum* is quite a desirable flowering shrub to have, for besides its beauty when covered with its Fuchsia-like blooms, it is one of the earliest plants to come into leaf; yet one rarely sees it. *J. P. Blaitwaite, Carlisle.*

OAK FUNGUS.—A short time ago, Mr. John Enys showed me several Oak-twigs that he had picked up beneath his trees at Enys, Cornwall. On first seeing numbers of these twigs lying under the trees, he attributed their presence to squirrels, but on examining them, found no trace of the bark being bitten. At the point of separation from the larger branch the twigs were much swollen, and the extremity appeared cicatrised. Mr. Enys forwarded some twigs to Kew, and was informed that the falling of these was due to the parasitic Oak-fungus, *Dichæna quercina*, which was very common on Oak-bark, but that it had not been previously recorded as a girdling parasite. Mr. Enys asked me to notice whether Oaks in other districts were similarly affected; and a short time later, being in Monmouthshire, I found the Oaks on the Wyelands estate, about two miles

from Chepstow, with numbers of twigs in the same state as those at Enys lying beneath them, and at Lydney Park, about twelve miles distant, and also at Raglan Castle the same thing was observable. On my return to South Devon I found that the Oak trees were also attacked in the same manner by the fungus, and picked up many twigs beneath them. I forwarded a few from Cornwall, Devon, and Monmouthshire for your inspection. Those I have found range in girth from the size of a finger to that of a knitting-needle. Some were terminated by fresh green leaves, and some short pieces, not more than an inch in length, had cicatrices at both ends. If, as stated by the Kew authorities, this fungus has not been previously known to attack Oak trees in the manner recorded, you might think the occurrence worthy of remark. *S. W. Fitzherbert.* [The fall of the branchlets of the Oak occurs often enough without any fungus by a natural process. Ed.]

"MAIDENHAIR."—Mr. Brotherston (p. 69) says: "According to Turner, Galium was called in the North, Maidenhair. This Britten identifies with Galium Aparine, but as 'petite Muguet' is given as an equivalent, it is plain that it is a mistake." Certainly, such an identification would be "a mistake"; but may I inquire where "Britten" made it? Certainly not in his edition of Turner's *Names of Herbes*, where "Maydensheire" (Turner's spelling) is glossed Galium verum; nor in the *Dictionary of English Plant Names*, where it is also correctly identified. *James Britten.*

SHALLOTS V. EGYPTIAN ONIONS.—At several shows in Kent this season, notably at Chilham, large Russian Shallots have been disqualified, "not being Shallots" in the opinion of some of the judges. At Chilham, we are led to understand, five lots were disqualified, the judges there writing on the cards, "Disqualified, being Egyptian Onions." Representation has been made to us by several exhibitors that this conduct on the part of the judges is wrong. Undoubtedly it is; and it is poor encouragement to amateurs and cottagers who, after procuring the best exhibition Shallots and growing them, have their exhibits treated in this way by men who must be in complete ignorance of what large Russian Shallots are. *Dobbie & Co.*

STRAWBERRY THE LAXTON.—My experience with this Strawberry is quite the opposite to that of your correspondent Mr. Barclay. I know well that soil makes a difference in the behaviour of Strawberries, and I incline to the opinion that Mr. Barclay's garden is on a gravelly subsoil. At Norwood, on the London clay, the Laxton has been the Strawberry of the season, while Royal Sovereign for the first time has been quite a failure, the fruit (that is, what was left by the frost) damping off. The Laxton was simply splendid in every way, the fruit large, of good shape and colour. Having a good constitution, I am of opinion that it is the coming Strawberry, both for market and private gardens. The raisers in their catalogue do not recommend it for forcing. Trafalgar is also a very fine variety here, and Latest-of-All is simply indispensable. *J. Anderson, Streatham Grove, Norwood.*

SPECIFIC NAMES.—I think a further examination of the new Kew *Hand-Lists* will show Mr. C. Wolley-Dod that the authorities frequently use capitals in the orthography of specific names derived from patronymics. For instance, *Crinum Powellii*, *Crocus Boryi*, *Cyclamen Atkinsoni*, *Delphinium Menziesii*, *Geranium Rossii*, *Erigeron Roylei*, and countless others possess initial capitals. The fact that there are exceptions to this practice seems merely to suggest that there has been carelessness in compilation or in proof-reading. It would be difficult to make a uniform rule which would be logically defensible. Common-sense suggests the initial capital in names synonymous or in apposition, such as *Lythrum Salicaria*; and in the case of personal and geographical names there is distinct offence to the eye in *Crinum powelli*, while there is none—unreasonably, I am prepared to admit—in *Crocus nevadensis*. May we not therefore use a small initial for specific names which are descriptive-adjectival or local, and a capital initial for

synonyms and patronymical adjectives? This is the practice I have adopted in my recently-issued *Concise Handbook of Garden Flowers* (Methuen), and though it lacks symmetry it may be justifiable from a practical point of view in that it helps to the understanding of the specific name. *H. M. Batson, Hoe Benham, Newbury.*

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES' CRICKET MATCH.—It is to be hoped that this proposed cricket match, the one held last year having been so pleasant and successful, is but put off for a few weeks. To postpone it indefinitely would be ungracious to the Earl of Ilchester, who so kindly offered the use of Holland Park for the match, and be not less annoying to his esteemed gardener, Mr. C. Dixon, who has done so much to perfect the arrangements and get the ground into good order. The initial mistake without doubt was made in fixing the date of the match so early as August 8, when so many members are engaged in other directions. Last year the match was on September 3, nearly a month later, when a delightful day was experienced and there was a good attendance. It is hoped that the first week in September will yet be selected, and thus show both Lord Ilchester and Mr. Dixon that their kindness is fully appreciated. *A. Dean.*

ODONTOGLOSSUM CRISPUM SIBYL.—In your notice of the above plant, shown in bloom at the Holland House show, you describe it as having been raised here. This is an error; and it should have been noted as a natural hybrid. *Norman C. Cookson, Oakwood, Wylam.*

"CONDOR" RASPBERRY.—You are quite right in your supposition that "the unfavourable weather has hindered the development of sweetness" in this variety. In normal summer weather it is sweet and of good flavour, but a continuous downpour of rain day after day, with no sunshine and chilly nights, made all Raspberries in this district acid and flavourless. Fortunately the weather has now changed for the better. *George Pyne.*

THE CUCUMBER LEAF-SPOT.—One extensive cultivator of Cucumbers at Worthing informs me, and I have observed it also, that this malady is not so prevalent this season as last, it being mid-summer before it showed itself on the plants, and then its spread was not so rapid. This spot has more than once been termed the "Worthing spot," but during the present season I have seen more spot among the London suburban market establishments. This is of interest, and on asking Mr. Sparkes where the spot began in his houses, his reply was, "At the door-ends." Again, as evidence of the lessened virulence of the disease, I observed a Cucumber-house with plants in bearing, which had been affected some six weeks, and were yet yielding a paying crop. Another statement he made was that the spot began to appear generally after a severe thinning of the bine, and he thought that this showed a lack of strength and the need of more feeding. I give this for what it is worth. However, I must say the Worthing growers are far cleaner in their culture than many I have seen this season in my travels. The hillocks on which the plants grow are small in size, and less manure is employed. *Stephen Castle.*

PREPARING STRAWBERRIES FOR FORCING.—I can fully endorse Mr. Coomber's remarks with regard to taking runners from young plants set out the previous autumn. Two, three, or even four-year-old plants will give fine strong crowns, but side by side with plants from the younger stock near fruiting stage the difference is very marked. Contrary to the opinion of many good gardeners, I do not believe in using very rich composts for Strawberry plants; and on light loams I never repot, but simply layer the runners into deep 32's. These pots I prefer to 48's as they are less liable to suffer in autumn from drying winds, slip-shod watering, &c., a matter which may mean success or failure. That fine old gardener and fruit cultivator, Mr. T. Blair, for over thirty years at Shrubland, was a very successful forcer of the Strawberry in 5-inch pots, and British Queen and Countess II. du Thury answer well in this sized pot. We grow from eight to ten thousand here for early and late

forcing, chiefly Royal Sovereign. This season I noticed a higher percentage of blind ones than usual, doubtless owing to the damp autumn and lack of sun in ripening the crowns. *G. T. Briggs.*

ROSE ZEPHYRINE DRUOT.—The late Mr. Selve Leonard, who took a great interest in this Rose, spelt it as above. He was largely instrumental in re-introducing into this country this exquisite thornless Rose, which blooms from June to November. Mr. Leonard used it in his garden designs, and largely as a pillar or natural bush in herbaceous borders. The Guildford Hardy Plant Nursery is still, I believe, the chief English source of supply, and I have pleasure in enclosing blooms cut from trees supplied by them to me four years ago. *A. C. Curtis, Glasenwood, Guildford.* [A Rose without a thorn, rich in colour, delicious in perfume. *Ed.*]

BOOK NOTICE.

STUDIES ON THE LIVID-ROT OF THE VINE (*Coniothyrium diplodiella*), by Dr. Gy. de Istvánfi. (Ann. Inst. Ampelogr. Roy. Hongrois, II., 1902.)

In this age of record-breaking, I think it may safely be said that the work under consideration constitutes a record in its way, no fewer than 288 pages of text, twenty-four coloured plates, and twelve figures in the text being devoted to the life-history of a minute fungus parasitic on the Vine. Furthermore the work is a masterpiece of research, as would naturally be expected from one who for some years assisted Brefeld in his researches on the fungi. From the practical standpoint there is ample justification on the part of the Hungarian Minister of Agriculture for facilitating the research and forwarding its publication, inasmuch as it is stated that in 1901 damage to the extent of £320,000 was experienced by the viticulturalists of Hungary, caused by this fungus alone.

The fungus is by no means a novelty, being first observed in Italy in 1878, and like many, perhaps most other plants of as long standing, has received several different names. Its most generally used trivial name in Europe and the United States is White-rot; however, Dr. Istvánfi elects to call it Livid-rot, because the blotches it produces on Grapes are livid and not white.

Every part of the Vine above ground is liable to attack from this pest. On the leaves large, irregular patches of a dingy white or livid colour are formed, and as the diseased portion dies and becomes dry, its surface is studded with myriads of minute black points, which represent the fruit of the fungus. Its presence on the branches is first indicated by a brownish tint, which soon changes to grey, at which stage the numerous black points or spore-bearing bodies appear. The tendrils often become much distorted when attacked.

The fruit may be attacked at all stages, and very frequently infection takes place first at the pedicel or stalk, and from thence passes into the berry. When grapes are about half grown, the disease commences in a very characteristic manner, and is easily recognised. The first indication of disease is a pale-brown discoloration at the point where the berry is attached to its stalk. This discoloration extends evenly all round the fruit, its extreme edge being of a darker brown than the remainder, thus forming a dark ring round the berry. This dark line continues to move slowly from the stalk end until the entire berry becomes brown; at a later stage it changes to a livid colour, bears numerous fruit-pustules, and the berry shrivels and dries up.

Up to the present, Livid-rot has proved to be one of the most stubborn of parasitic fungi to combat, there being no known practical means of killing the spores. Dr. Istvánfi has discovered that this immunity of the spores is due to the presence of a certain amount of chitin in the

spore-membrane, which enables it to resist the action of fungicides.

Numerous tables are given, showing the action of nearly all known fungicides upon the spores, the outcome being that not one is of the slightest value; in fact, spores that had been soaked in Bordeaux-mixture for twenty-four hours afterwards germinated and produced fruit.

Next comes a table of results of experiments, in which it is announced that under the action of one fungicide the spores are all killed. An explanation follows, in which the author states that he has discovered a substance easy of application, always effective, innocuous, cheap, &c., capable of killing the spores of *Coniothyrium diplodiella*, notwithstanding their tenacity, and, as naturally would be expected, it is also stated that this same substance will also kill the spores of other species of parasitic fungi not fortunate enough to possess an armour-cased exterior containing chitin. Thus we are led up to believe that, so far as fungus parasites are concerned, the long-hoped-for millennium has at last arrived, and anxiously scan the following page for further information.

After much patient search an obscure footnote is discovered, which explains that the newly-discovered fungicide is now being patented in all important Vine-growing countries. In another place it is stated that further information of a practical nature will be given at some future time! *Geo. Massee.*

NEW HYBRID HEMEROCALLIS.

In my garden at the Vomero I cultivate all the *Hemerocallis* and *Funkias* which I have been able to obtain, including all those known in European gardens. They flower here from the end of April until November. *H. minor* and *Dumortieri* are the first to flower, and the fine *aurantiaca* blooms from April to November, being thus the first and also the last. I cultivate them all in the open ground and in full sun, giving much water and manure. When the plants first came here all were completely sterile, and I lost all hope of fertilising and hybridising them. But little by little some of them showed the lost quality of seed-bearing, and finally some new importations from Central China made it an absolute certainty that it would be possible not only to grow seeds but also to hybridise the plants, and now the result is very promising, and we have some fine hybrids.

Up to the present we have had seeds from the following species and varieties:—

Hemerocallis minor, Mill.
" *Thunbergii*, hort. Lemoine.
" *citrina*, Baroni.
" *fulva maculata*, Baroni.
" *aurantiaca major*, Baker (?)

The remainder are still sterile, but give pollen abundantly. We have hybrids of the following:—

H. citrina × *aurantiaca major*
" × *fulva maculata*
" × *Thunbergii*
" × *minor*
" × *disticha*
" × fl. pleno
H. aurantiaca major × *citrina*
" × *fulva maculata*
H. Thunbergii × *citrina*
" × *aurantiaca major*
" × *minor crocea*
H. minor crocea × *Thunbergii*
" × *citrina*.

If sown immediately after ripening the plants or seedlings flower here during the third year, and some of them after the fourth year. We water and manure them abundantly, for they are always thirsty and hungry. Here is a short but concise description of my first fine and interesting hybrids:—

1. *HEMEROCALLIS VOMERENSE* (*Thunbergii* × *minor crocea*).—Leaves about 2 feet long, and very narrow, deeply canaliculate, light green. Stem more than 2 feet long, with eight to ten very fine sweet-scented, canary-yellow flowers borne April-May. The outside

of the flowers is a little more darkly shaded. A fine hybrid, exactly midway between its parents. It is not sterile, but produces perfect seeds:

2. *HEMEROCALLIS ELMENSE* (*minor* (*graminea*) × *citrina*).—Leaves about 2 feet long or longer, concave, light green, loose; very stoloniferous. Stem about 3 feet long, bearing ten to twelve or more flowers of a brilliant canary-yellow, very large, widely opened, sweet-scented; trunk bright green, tube very long, flowers April-May, and is useful as a cut flower.

3. *HEMEROCALLIS* × *HIPPEASTROIDES* (*Minor crocea* × *Thunbergii*).—Leaves about 2 feet long, narrow, elegantly recurved, light green; stem 2½ feet long, with about ten or more very handsome, widely-opened flowers with star-like horizontal petals, brilliant sulphur-yellow, and sweet-scented. A magnificent variety that flowers in May and is exceedingly elegant.

4. *HEMEROCALLIS* × *PARTENOPE* (*Thunbergii* × *aurantiaca major*).—Leaves about 2 feet or longer, narrow, concave, fresh-green, a little shaded with grey outside; stem cylindrical, slender, with many leaves, and ten, sixteen, or more flowers. These are large, like a Lily, canary-yellow, sweet-scented, with undulate petals. A very fine hybrid, producing seed abundantly, and exactly midway between its parents.

5. *HEMEROCALLIS* × *BARONI* (*Thunbergii* × *citrina*).—This flowered first on June 20, 1903. Leaves about 2 feet or longer, concave below, undulate on the upper surface, like the leaves of *Citrina*, and pink on the lower part; umbel widely spreading, with many flowers, which open in the evening or about 4 o'clock, and are sweet-scented, very large, with the inner petals larger than the outer, and a very long, light-green tube. The stem is elegant, slender, and about 3 feet in height. A splendid hybrid, with canary-yellow flowers.

6. *HEMEROCALLIS* × *OCHROLEUCA* (*Thunbergii* × *citrina*).—Flowered first on June 21, 1903. Leaves about 2 feet long, narrow, concave on the lower surface, undulate, fresh-green; stem more than 2 to 3 feet in height, slender, much ramified; flowers open at 6 o'clock in the evening, remaining so during the following day, sweet-scented, large, deeply sulphur-yellow, with gold anthers, and a short, greenish tube. A splendid hybrid, and one of the finest of all the *Hemerocallis*.

7. *HEMEROCALLIS* × *MULLERI* (*Thunbergii* × *citrina*). Flowered first on June 25, 1903. The very fine large flowers open at 4 o'clock. The leaves are like those of the pollen-parent (*H. citrina*, sent from Central China by the late Padre Givaldi, and named by Prof. Baroni, of Florence), are narrow, concave, and undulate; stem 2 feet long, always cylindrical, but somewhat angular, not much divided, but with about fifteen flowers or more in the umbel. The flowers are very large, with large petals, sweet-scented, canary-yellow, with a long, greenish-yellow tube and golden anthers. This is, so far, the finest of my new hybrids.

Charles Sprenger, Vomero, Naples.

Obituary.

MR. J. S. HEDDERLEY.—This well-known Midland florist died quite recently at his home at Sneinton, Notts, at an advanced age. A contemporary of the late Mr. E. S. Dodwell, he was one of a large band of florists who fifty years ago made Derby and Nottingham centres of Carnation culture. He was an enthusiastic Carnation cultivator, and was highly successful as an amateur exhibitor, contributing to the *Midland Florist* and to *Gossip of the Garden*. It was in 1855 that the scarlet bizarre Carnation Admiral Curzon sported in his garden to a scarlet flake, to which he gave the name of Sportsman; and it went at one bound to the head of its class, and in the year 1856 it took the whole of the prizes offered for the best scarlet flake at the National Carnation Society's annual exhibition at Birmingham; and in this year, 1903, nearly fifty years afterwards, Sportsman took the first prize as the best scarlet flake at the recent exhibition by the National Carnation Society at the Drill Hall; and at the Midland Carnation show at Birmingham on the 6th inst. it took the 1st, 2nd, 3rd, and 4th prizes among the scarlet flakes. Mr. Hedderley raised a charming rose self named *Royalty*, which I have reason to believe is the variety Mr. J. R. Upton shows so finely on long stems at the Drill Hall. One of the best Carnations the late Mr. E. S. Dodwell ever raised was C.B., J. S. Hedderley, which he named after his life-long friend; and it is still one of the most popular exhibition varieties. I think it may be said of Mr. Hedderley that he had outlived every one of his contemporaries of 1855. *R. D.*

NEW CHINESE PLANTS.

THE following new species of *Corydalis* are two very charming rockwork plants, which are among the many novelties discovered in China by Mr. Wilson when collecting for Messrs. J. Veitch & Sons, in whose nursery they are now in flower. Both have a lax rosette of bipinnately cut leaves, and several erect, handsome racemes of yellow flowers arising direct from the perennial rootstock. *C. tomentosa* is densely covered with soft white hairs on the leaves and racemes, and has light yellow flowers; whilst *C. Wilsoni* is glabrous,

side, the rest entire, rather thick in substance. Racemes erect from the rootstock, 5 to 7 in. high, leafless, many-flowered from about 1 in. above the base, tomentose on all parts except the corolla. Bracts 2 to 3½ lin. long, entire, lanceolate, acuminate to a fine point. Pedicels 2 to 3 lin. long. Sepals ½ lin. long, ovate, acuminate, entire. Corolla (including the ¼ in. long spur) ¾ in. long, light canary-yellow, without markings; limb of upper petal spreading, ovate-oblong, subtruncate, obtusely apiculate, with recurved margins, concave at the middle and slightly gibbous-keeled

CORYDALIS WILSONI, N. E. Brown (n. sp.).

Glabrous in all parts. Leaves all in a lax radical rosette, 4 to 6 ins. long, 1½ to 2½ ins. broad, oblong, bipinnatisect or bipinnatifid, light glaucous-green; pinnae about five on each side, alternate, petiolulate, 7 to 13 lin. long, 3 to 9 lin. broad, ovate or deltoid-ovate, pinnately 3 to 5-lobed or with the lower lobes free, with a lobule on their outer side, rather fleshy in substance. Racemes erect from the rootstock, 5 to 7 ins. high, leafless, many-flowered from about 1 in. above the base. Bracts 4 to 5 lin. long,



FIG. 49.—VIEW IN THE GARDEN OF THE LATE MR. G. F. WILSON, AT WISLEY, SURREY. (SEE P. 118.)

(Largely presented to the Royal Horticultural Society by Sir Thomas Hanbury.)

with light glaucous-green foliage, but not covered with a glaucous meal, and the flowers are in rather denser racemes, larger, and of a deeper yellow than in *C. tomentosa*. Both are very attractive plants, and probably hardy.

CORYDALIS TOMENTOSA, N. E. Brown (n. sp.).

Leaves all in a lax radical rosette, 4 to 7 ins. long, 1½ to 2 ins. broad, oblong in outline, bipinnate, everywhere softly and densely white tomentose, very pale green, prettily tinted with reddish; pinnae 4 to 6 on each side, opposite or alternate, ½ to 1½ in. long, 5 to 6 lin. broad, petiolulate, oblong, obtuse, pinnatisect, with 2 to 3 pairs of broadly ovate obtuse lobes, the upper united with the terminal lobe, the lower with a tooth on the outer

on the back; limb of lower petal slightly spreading, ovate, obtuse, minutely apiculate, with a boat-shaped central cavity, gibbous beneath and minutely scabrous on the front part of the gibbosity; spur compressed, 1½ to 1¾ lin. broad, falcate-oblong, decurved, very obtuse; inner petals obtuse, bluntly apiculate, with somewhat inflated keels. Stigma crutch-like, with horizontal arms. Capsule about 1 in. long, terete, pubescent. Allied to *C. tomentella*, Franch., but differs in the leaves being more spreading, tomentose with longer hairs, and the flower-stems all arising direct from the rootstock, not from a branching leaf-bearing stem as in *C. tomentella*, besides which there are differences in the structure of the flowers.

entire, lanceolate, acuminate to a fine point. Pedicels 3 to 4½ lin. long. Sepals 2 lin. long, ½ lin. broad, ovate-lanceolate, acuminate to a fine point. Corolla (including the ¼ in. long spur) 11 to 12 lin. long, deep canary-yellow, with greenish keels to the outer petals, the limbs of which are similar, spreading, ovate-oblong or elliptic-oblong, acute and reflexed at the tips, with a deep lanceolate central depression and more or less recurved margins, gibbous-keeled on the back; spur much compressed, 2½ in. broad, falcate-oblong, decurved, very obtuse; inner petals obtuse, somewhat acutely keeled. Stigma crutch-like, with incurved arms. Capsule about 1 in. long, terete, curved, glabrous. N. E. Brown.

A TEXT-BOOK OF BOTANY.*

THE book we have now to mention learns the names of Professors Strasburger, Noll, Schenck, and Schimper, as authors. This is the second English edition, revised from the fifth German version by Dr. W. H. Lang, of Glasgow. The Introduction is an excellent epitome of the present condition of botanical thought, though we think that, without in the least depreciating the labours of Darwin, some acknowledgment should also have been made of those of Wallace. The term "natural selection" is well understood by experts, but it is questionable whether "adaptation" is not the more expressive term and more readily understood by students. "Survival of the fittest" is another phrase that requires modification according to circumstances. An organism may not really be the fittest, but it is made so as the ultimate result of often conflicting circumstances, just as a plant may thrive in a given locality, not because it is really intrinsically the best suited to that locality, but because it there happens to be less exposed to competition from rivals. It grows where it can, not where it would prefer to grow, had it a choice in the matter.

To show how well the book has been brought up to date, we may note that Prof. Hugo de Vries' Mutation theory is invoked to account for the production of new species. Instead of the successive evolution of new variations, which gradually, when sufficiently attuned to circumstances, assume a permanent character, transmitted by inheritance, and thus become species, Prof. De Vries looks upon what a gardener would call "sports" as the starting-points of new species. It may be so, but we are by no means sure that in a work like the present it is not premature to adopt Prof. De Vries' conclusions as articles of faith without further confirmation.

Has any other botanist met with these varieties of *Oenothera lamarckiana*, which the Dutch naturalist raises to the rank of species, or has their permanence been tested by others? We have seen large areas covered with the plant, and have looked for these sudden mutations without success. Of course that proves nothing but the desirability of further research.

Prof. De Vries, in his experiments with the contorted *Dipsacus*, succeeded in rendering permanent the twisted condition of the stem. Self-sown seedlings from seeds kindly sent us by Prof. De Vries have now come up year after year, but show not a trace of spiral torsion.

The accuracy of Prof. De Vries' own observations is, of course, beyond all question, but the different results obtained elsewhere suggest that the "Mutation theory" is hardly sufficiently established to be treated as a dogma, to be incorporated in a student's text-book, as it is in the Introduction to the work before us. Propagation by grafting would be rendered unnecessary if the reproduction of "sports" could be depended upon from seed.

On the book itself it were an impertinence to comment. It is clearly intended for advanced students, who have the resources of a botanical laboratory at their disposal. A novice would hardly know what a "catalytic enzyme" is. It is mentioned on p. 77, but, so far as we see, no explanation either of the adjective or of the substantive is given in the preceding pages. The relegation of the very numerous bibliographical references to the end of the volume no doubt saves space and repetition, but it does not add to the comfort or convenience of the reader. The book is richly illustrated, and some of the illustrations are even coloured.

* Macmillan & Co.

A copious index is added, in which, however, we do not find the term "diarch."

We give one more illustration showing the care that has been taken to bring the volume up to date, and that is afforded by the reference to Johannsen's experiments with ether in shortening the resting stage of plants. Gardeners on the continent have preceded us in turning this discovery to account in the forcing of Lilacs and other flowers.

As a book for advanced students there is no superior to this, as it deals with all departments of Botany.

SOCIETIES.

ROYAL HORTICULTURAL.
Scientific Committee.

AUGUST 4.—Present: Dr. M. T. Masters, F.R.S., in the chair; Messrs. Hooper, Saunders, and Bowles; Dr. M. C. Cooke, Revs. W. Wilks and G. Henslow, Hon. Sec.

Late flowering Plums, &c.—Mr. HOOPER had noticed that various modifications occurred in flowers of fruit-trees at the present time. Petaloid sepals and semi-doubling of petals with two carpels, forming twin Plums, were not uncommon. It was observed that in the common cultivated double Cherry (and in *Prunus triloba*) there are always two foliaceous carpels present. Pear-trees, &c., have also produced a second crop of flowers, which are borne on the ends of the young shoots instead of on spurs.

New Crocus.—Mr. BOWLES exhibited dried specimens and drawings of *C. caspius*, from Russian Talych, S.W. Caspian, with a white flower tinted with rose. He also showed the autumn-flowering *C. Scharojani* from the Caucasus. It is of an orange colour, and carries the leaves of the last season simultaneously.

Papaver pavoninum.—Mr. WILKS showed a plant from Central Asia (see *Garten Flora*, 1882, p. 296, t. 1695), remarkable for a crescent-shaped black band above the base of each petal.

Cucumber Diseased.—Mr. DAVIS, of Bitton, Bristol, sent roots of Cucumbers which had failed. Mr. SAUNDERS reports as follows upon them: "I found that the extreme base of the stems were attacked by small worms belonging to the family Enchytracidæ, which are nearly related to the earthworms, and are well-known pests at the roots of plants; they were undoubtedly the cause of the unhealthiness of the plants. Lime-water will kill them in a few minutes if it can be made to reach them; thoroughly drenching the soil with this fluid might be of use, though I do not know what effect it might have on the plants. They, however, are so injured that I should imagine the best thing to do would be to pull them up and burn them, and burn or bury deeply the soil in which they grew."

Cucumbers Diseased.—Dr. COOKE reported upon some fruit badly attacked received from the neighbourhood of Bristol. It appears to be due to a fungus new to science, which he has named *Cladosporium scabiei*. A full description will be recorded in the *Journal of the Royal Horticultural Society*. He strongly recommends "that all diseased fruits be removed and destroyed at once, and those remaining should be sprayed to preserve them from attack. Condy's Fluid, diluted, should be tried as less likely to injure the fruits than copper solutions. No effort should be spared at once to stamp out the pest."

ROYAL SCOTTISH ARBORICULTURAL.

THE twenty-sixth annual excursion of this Society was made this year to Bedfordshire, Buckinghamshire, and Hertfordshire, the estates of Woburn, Wrest, Ashridge, Tring, and Mentmore, and the woods in the vicinity of High Wycombe, being visited. About 100 members and friends of the Society took up their headquarters at Leighton Buzzard on July 27, and an early start was made the following day for Woburn.

The first stop was made at Brickhill, where the party was met by Messrs. C. P. Hall & Mitchell, respectively agent and forester on the Woburn estate. Here, young plantations, planted in 1901, 1902, 1903, on a light sandy soil, were inspected, various areas having been planted with pure Oak, pure Ash, pure Scots Fir, and mixed hard-woods and Conifers. All looked extremely well, but the policy of planting pure Oak and of putting Scots Fir on ground so well adapted for slit planting, came in for a little criticism. The system of pit planting is, however, undoubtedly the correct one,

although it is an open question whether the extra expense incurred is justified by results in the case of Scots Fir on ground of this description. Experiments in the cultivation of Heather were also seen, both planting and sowing being tried; but the latter so far has proved a failure.

A move was next made to the Scots Fir woods adjoining, in which the most interesting object-lesson of the day was seen. This was the natural regeneration of several acres of Scots Fir on ground from which the old crop had been removed about four years ago.

The young crop covered the ground evenly and thickly, and showed every sign of forming a useful crop. A number of self-sown Plymouth Pine [What is the Plymouth Pine? We are not familiar with the name. Ed.] were noticed under the old crop of Scots Fir still standing; but many were dead or dying from some unknown cause, although both aphids and fungi of some kind were noticed.

After leaving this wood, the drive was continued to Woburn Park, and the party had an interesting walk through the plantation known as the Evergreens, planted in 1743 on a heathy rabbit-warren. It was in connection with this plantation that the Duke of Bedford of that day differed from the views held by his gardener, a fact which he announced to the world by putting up a notice-board at the edge of the adjoining high-road with the following legend:—"This plantation was thinned by John, Duke of Bedford, contrary to the advice and opinion of his gardener." At the present time the majority of the trees have matured, and many interesting specimens of Cedars, Plymouth Pines, and other Conifers were noticed. Of especial interest was a very fine Larch, apparently *L. sibirica*, about 100 feet in height; and a young avenue of various species of the Silver Fir tribe also looked remarkably well.

Proceeding through the beautifully-timbered park to the Abbey, the Society experienced the proverbial hospitality of the House of Russell, and afterwards inspected the Abbey and gardens. The famous Woburn Beech, figured by Porbey in his *Forest Primer* in 1810, came in for a good deal of attention. Its height up to the first limb is 50 feet, and its girth at 5 feet up 14 feet 6 inches, and is reckoned to contain nearly 600 cubic feet of timber. Unfortunately Porbey gives no girth measurements of this tree, otherwise a comparison of data would have been both instructive and interesting. Some splendid specimens of both the pedunculate and sessile-flowered varieties of Oak were also seen, remarkable as much for their beauty of form as their size. An inspection of the home farm and other features, and the interesting collection of American bisons, deer, and other animals in the park completed the day's work.

On Wednesday the 29th, the first item on the day's programme involved a long drive to Wrest Park, the historic seat of Earl Cowper. A fine avenue of Wych Elm and Spanish Chestnut intersects the park; but the gardens of Wrest are its great feature. Laid out in the style prevailing at the end of the seventeenth and beginning of the eighteenth centuries, Wrest probably illustrates one of the most perfect examples of the formal style of gardening in the country (see *Gardeners' Chronicle*, vol. xxvii, 1900, p. 375, et seq.). Its temples, statuary, grottoes, oblong canals, vistas, pleached and grassed alleys, Yew hedges, &c., exhibit a character beside which modern ideas on garden planning seem weak and puny. Unfortunately the creators of such gardens only see the effect of their work in imagination and not in reality; and perhaps this is one reason why the imitation of them to-day is not more popular. To arboriculturists, the fine timber-trees standing here and there throughout these beautiful pleasure-grounds were of great interest—Beech, Ash, Wych Elm, &c., of noble proportions; and amongst the Beech was one little behind the famous specimen at Woburn, and having a girth of about 13 feet at 5 feet up.

Returning from Wrest a halt was made at Ampthill for lunch, after which the historic old Oaks in the park there were visited. Many of these were pollards, and all were extremely picturesque old trees. The largest had a girth of 29 feet 6 inches, while out of sixteen of the largest trees only four had a girth of less than 20 feet. In addition to their age and size, their healthy and vigorous appearance probably render them the finest collection of old Oaks in the county, and one of the finest in England.

A move was next made to the Experimental Fruit Farm at Ridgmont, where Mr. Spenser Pickering and Mr. Lewis Castle met the party. The various experiments on the growing of fruit-trees were pointed out and explained. To foresters, the most interesting fact elicited was the injurious effect of a grass covering to the surface-soil, proving the advisability of pit-planting on turf; while the nurserymen present derived much comfort from the statement that careless planting gave equally good results as those derived from careful work. A short visit to the Woburn Experimental Station of the Royal Agricultural Society brought to a close a hard day's work, which, in spite of thunder-showers, had proved a most enjoyable one.

The third day's proceedings contained visits to Ashridge Park, Tring Park, and Mentmore. At Ashridge

were seen probably the finest Beech timber that can be found in an English park. Straight, clean stems running up for 60 or 70 feet without a branch, and containing 200 or 300 feet of sound timber were not uncommon, and many parts of the park reminded one more of a Beech forest than an ordinary park. But even the forestry instincts of the Society were temporarily forgotten when the magnificent mansion came into sight. Its size, age, and the beauty of its architecture render it one of the most famous seats in England; and the gardens and grounds adjoining are equally attractive. The Lime-tree Walk, the Monk's Garden, and the avenues of ornamental Conifers were features almost perfect in themselves, and were so situated that neither clashed with the other. A tree of great interest was the Oak planted by the late Queen, and which has already a girth of about 8 feet and a large spreading head. A good specimen of *Fagus antarctica* was also noticed.

From Ashridge the excursionists proceeded to Tring Park, the fine seat of Lord Rothschild. At the entrance-gate they were met by Mr. Richardson Carr (the agent) and Mr. Smith (forester), and conducted to the home nursery close by. These nurseries are used for the raising of fruit trees, Roses, shrubs and forest trees, and being high and on stiff, loamy soil, produce sturdy plants fit to go anywhere. A bed of Larch and other seedlings attracted much attention, and it was evident that Mr. Smith was a skilful all-round culturist.

Leaving the nursery on their way to the mansion, some fine young Beech and Oak were passed through, and the almost entire absence of rabbits both here and at Woburn accounted in a great measure for the satisfactory results obtained.

The gardens having been inspected, the Society was entertained at luncheon by Lord Rothschild, and then went round the farm and private museum, the latter having a world-wide reputation. Later on, the Mentmore gardens were visited.

On Friday a day was spent in the Beech woods round High Wycombe, and the system of natural regeneration there adopted studied. One or two of the principal chair factories were gone through, and the business part of the excursion was brought to a close, the general impression being that the twenty-sixth excursion of the Society had been both instructive and enjoyable, and that the best thanks of all were due to those noblemen and gentlemen who had assisted and entertained the party so generously. A. C. F.

BRITISH PTERIDOLOGICAL.

AUGUST 3.—The annual meeting of this Society was held in the Institute, Bowness, on the above date. There were present Dr. Stansfield (President) and a fair number of other members, both local and general. The Secretary's and Treasurer's reports showed the financial affairs of the Society to be in a sound condition.

The President in his opening address made reference to the gaps which had been caused by death in the ranks of the Society since he last met the members, and expressed his pleasure at meeting many old and some new friends. He congratulated the Society on the publication of the book of *British Ferns* which had been compiled by members of the Society, under the editorship of the late President, Mr. C. T. Drury, containing up-to-date lists, with details and dates of origin, of all the best varieties of the various British species of Ferns. He urged the members to keep a watchful eye upon the book, so that in any future edition any possible flaws might be corrected, and new matter bearing upon the subject be inserted, so that the book might continue to be the standard work of reference upon the subject. Several of the chapters on asporophy, &c., by Mr. Drury and others, had never before been published in popular form, and would constitute a feature of great biological interest in the book.

The election of officers for the ensuing year was then gone through, most of the old officers being re-elected, but with some changes among the vice-presidents and committee. The place of meeting for next year was again fixed at Bowness, this being fairly central for members from England, Ireland, and Scotland, as well as being an attractive place of meeting from its natural advantages and surroundings.

Two papers by Mr. C. T. Drury were read, in the absence of the writer, by the President, their subject being "Varietal Types of British Ferns," and "The Propagation of Varieties of *Lastrea montana*." The President also read a paper of his own upon "The Study of the Abnormal." A short discussion followed, in which Mr. Garnett, Mr. Phillips, Mr. Whiteside, Mr. Edwards, and others took part. Mr. Garnett expressed his strong belief in the influence of environment in the production of varieties, and it was pointed out that there was a strong case in point in a beautiful crested form of Lady Fern which had been picked up last year in this neighbourhood by Mr. Phillips as a slightly abnormal but not crested form. During the year, however, that it had been under cultivation it had developed into a very fine crested or cristata form. The plant was exhibited by Mr. Phillips.

Mr. Garnett exhibited a very promising plumose setigerum form of *Athyrium*, but the Fern was not yet mature, and it was thought desirable to defer naming it for another year. Mr. J. Loveday exhibited some very finely-grown crested forms of *A. f. f. setigerum*; Mr. Henry Bolton, Mr. Loveday, Mr. Praeger, and others, exhibited fronds, all of more or less interest and importance. The sensation of the year, however, was a magnificent thoroughbred grandiceps form of *Lastrea montana*, which had been found within a few days in Longsleddale by Mr. Smithies. The Certificate of Merit of the Society was awarded to this Fern under the name of *Lastrea montana grandiceps*, Smithies. It is singular that Mr. Smithies is the only previous finder of a grandiceps form of *montana*; the present find, however, quite surpasses previous records of this type in this species, and is equal to the best grandiceps forms found in other species. The meeting concluded with votes of thanks to the writers of the papers, which, it was decided, should be published in the Transactions of the Society.

MEETING OF THE GHENT CHAMBRE SYNDICALE.

AUGUST 3.—At the meeting on the above date of the Chambre Syndicale and of the Société Royale d'Agriculture et de Botanique of Ghent, the following awards were made:—

Certificates of Merit for cut blooms of Phlox, from M. C. KERVVOORDE (*par acclamation*): for *Cattleya* hyb. *C. Schilleriana* × *C. Gaskelliana*, from M. F. DE BIEVE, of the Royal Gardens of Laeken (*à l'unanimité*); for *Lælio-Cattleya* (*L. elegans* × *C. Warneri*), from M. A. PEETERS, of Brussels (*par acclamation*); for *C. gigas* var. *Mlle. M. Henriette* de Wavrin; for *C. hyb.* (*C. Schofieldiana* × *C. aurea*) (*par acclamation et avec félicitation du Jury*)—both these exhibits also were from M. PEETERS.

Certificates were also allotted for *Cattleya Withei* (*C. Schilleriana* × *C. Warneri*); for *Lælio-Cattleya* Herman Holmes (*L. purpurata* × *L. C. Schilleriana*) (*à l'unanimité*); for *Cattleya Gaskelliana*, and for *C. Wavriniana* (*C. gigas* × *C. Schofieldiana*)—all these from the Marquis DE WAVRIN.

A Floral Certificate fell to M. CH. GAZELLE, for *Veronica purpurea*; a Cultural Certificate to the Marquis DE WAVRIN, for *Eubophyllum barbigerrum*; and Honorable Mention for *Begonia Triomphe de Gand*, from M. PIERRE PARÉ.

BASINGSTOKE HORTICULTURAL.

AUGUST 3.—The twenty-seventh annual summer show was held in Goldings Park on the above date. Plants were numerous and good; and for nine specimen stove and greenhouse plants, diverse, Mr. Hunt, gr. to R. Moss, Esq., Fern Hill, Blackwater, was 1st, he having magnificent specimen of *Allamanda Hendersonii*, and others very good. Mr. Wasley, gr. to J. B. TAYLOR, Esq., Sheffield Manor, Basingstoke, was a very creditable 2nd. Mr. WASLEY also was awarded the chief prize for four specimen foliage plants, his *Kentia Belmoreana* being an excellent specimen of this fine Palm. Mr. HUNT was a close competitor. The latter gardener was the winner of the 1st prize for four flowering specimens, including a very well-flowered one of *Acalypha Sanderiana*.

Fuchsias were exhibited in a manner much superior to what one is accustomed to observe nowadays. Mr. T. Russell, gr. to R. BLENCOWE, Esq., Shippett's House, Basingstoke, was an easy winner of the premier place with four pyramids measuring 7 feet in height, shapely plants, well flowered. This gardener was likewise 1st for one specimen *Fuchsia*, with *F. elegans* measuring 8 feet in height.

Coleus were remarkable for bright colouring; and Mr. Best, gr. to F. D. LEXLAND, Esq., The Vyne, Basingstoke, was 1st for four pyramidal examples 5 feet in height; and he was 1st for a group of miscellaneous plants arranged so as to afford effect.

Exotic Ferns were excellently shown by Mr. WASLEY, who was 1st for six specimens, remarkable for healthy and vigorous appearance. Mr. HUNT was 1st for four *Liliums*. Cut flowers were shown in abundance; and Mr. Neville, gr. to F. W. FLIGHT, Esq., Cornstiles, Twyford, Winchester, was 1st for twenty-four and twelve, and also for twelve blooms of Tea Roses, in all cases showing capital examples. He was likewise the principal prize-winner for cut blooms of Carnations and *Picotees*, winning the highest award in a class for bunches of these flowers, as well as in the specimen bloom class. Mr. HUNT was 1st for twelve bunches of diverse hardy herbaceous perennials. The 1st prize for six bunches of Sweet Peas was taken by Mr. C. W. BREADMORE.

FRUIT.

This was good in every respect. The best six dishes were shown by Mr. WASLEY, and consisted of finely-berried bunches of Madresfield Court Grapes, a Melon, Peaches, and Onlin's Golden Gage Plum; Mr. HUNT was 2nd. Mr. TAMPLIN had the best bunches of Black

Hamburgh Grapes in a class set apart for that variety. A dish of the Peach, Nectarine, and one of exquisite Pineapple secured for Mr. WASLEY the 1st place. Windsor Castle was considered by the judges to be the best green-fleshed Melon, it was shown by Mr. TAMPLIN. In Sutton's scarlet-fleshed varieties Mr. HUNT was 1st.

Vegetables were excellent in quality but less numerous than usual. Mr. Kueller, gr. to Sir W. PORTAL, Malshanger Park, was 1st for Messrs. Sutton's prize for six, and also for the Society's competition with eight kinds; Mr. BEST was 2nd in each of these classes.

Messrs. B. LADHAMS, Ltd., Shirley, and Mr. M. PRICHARD, Christchurch, exhibited hardy herbaceous perennials, *Gladiolus*, &c.

NEWBURY HORTICULTURAL.

AUGUST 3.—The fifty-seventh annual exhibition of this Society was held at Goldwell Park on the above date, and was equal to any previous show, the largest tent in which plants were displayed being filled. Fruit was excellent, as were also vegetables. In recent years adverse weather has influenced the attendance of visitors, but on the last occasion the weather was propitious, and the show was abundantly visited by people from the town and from villages around.

The Committee depend entirely on horticulture, and entertainments of other descriptions are not favoured. The Society has as its President the Mayor of Newbury for the time being, who is well supported by the Corporation and others.

That widely known gardener, Mr. CHAS. ROSS, usually leads in all classes. This year he was less prominent, owing to a change of resident at Welford Park, and the sale of his favourite stove and greenhouse plants. He is, however, not readily beaten in fruits, vegetables, and cut-flowers.

The Hannington Champion Shield, one of the most coveted prizes, was on this occasion awarded for the most successful exhibitor at the show taking the most prizes.

The Open class (Div. 1) was the weakest in the show, due to the absence of the Welford plants; still, those gardeners who staged had excellent material, especially the 1st prize lot from Mr. T. LEITH, gr. Beaurepaire Park, Hants, whose specimens of *Clerodendron Balfourianum*, *Allamandas*, *Stephanotis*, and others, were very good; Mr. T. SURMAN was a close 2nd, especially fine being his *Ixoras* and *Stephanotis*.

For foliage plants Mr. LEITH was 1st, showing large *Codiaeums* and large-leaved foliage plants; 2nd, Mr. C. ROSS with small plants beautifully grown. Mr. C. ROSS also secured the highest award for the best foliage plant, as did Mr. T. LEITH for Exotic Ferns. *Coleus* made a grand display and the competition was keen, well-grown plants being in general shown, the awards in the order of their value going to Messrs. SURMAN, gr., Donnington Grove; R. C. NORRIS, Kingsclere; and Mr. C. ROSS.

Fuchsias, always a notable feature at Newbury, were present in fewer examples than formerly. Mr. T. SURMAN was an easy 1st with capitally flowered plants 8 to 10 feet in height; 2nd, Mr. G. A. COX, with smaller specimens.

Begonias were numerous shown and of the best quality. For double-flowered varieties, Mr. CLARK and Mr. KING divided the awards; and in the single-flowered varieties Messrs. HOPSON, SURMAN, and NORRIS were the principal winners. There was a lively competition for the best plant in bloom in the show, and Messrs. SURMAN, ROSS, and ABERY (Tilehurst), secured the awards, the first named having a magnificently flowered *Hydrangea* 7 to 8 feet in diameter.

A special feature at Newbury is what is termed a model conservatory arrangement, this is effected by the use of elevated stages, and the effect is very good when well done. There were five good exhibits of this kind, Mr. J. HOWARD, Benham Park Garden, being 1st; Mr. NORRIS was 2nd, and Mr. C. ROSS, 3rd.

Cut flowers were very good in every class. Roses in the Open classes were good, though small of size. Messrs. COOLING & SON, Bath, were 1st; and Mr. TRANTER, Henley, 2nd. In the local class, Lady SUTTON was a good 1st; and Mr. MEAD, 2nd, the premier stand having some very good Teas that were beautifully fresh-looking; and the Amateurs' Roses were particularly nice. Dahlias were plentiful, Mr. TRANTER being an easy 1st, and Mr. BOSLEY 2nd; and the class for miscellaneous cut flowers was well filled, Mr. T. LEITH being 1st, and Mr. W. T. ABERY, 2nd. Carnations were well shown by Mr. TRANTER, 1st; and Mr. SMITH, 2nd.

Fruit.—Grapes and Peaches were excellent. The best six dishes, distinct, were shown by Mr. HOWARD; and Mr. R. MAHER, gr., Yattendon Court, was 2nd. For Black Hamburghs, Messrs. SURMAN, HOWARD, and LEES were the leading competitors, the bunches being in each case of fine quality. Other Black varieties were shown by Mr. SURMAN, Mr. HOWARD, and Mr. GALL, who won 1st, 2nd, and 3rd prizes in the order given. Mr. GALL, gr., Aldermaston Court, showed Muscat of Alexandria, exceedingly good in berry and bunch, Mr. ROSS being 2nd, and Mr. MAHER, 3rd.

Mr. LEES and Mr. COX had the best Melons, and Mr. LEITH, Mr. ROSS, and Mr. MORRIS showed very fine Peaches; and Mr. LEES, Mr. LEITH, and Mr. HOWARD the finest Nectarines. Mr. HOWARD had the best Pine-apple.

Vegetables, mostly from artisans and cottagers, were very good and numerous. There were very few exhibits from nurserymen.

Roses came from Mr. RIGG, Caversham; and some good fruit was shown by local growers in single dishes. Lord Beaconsfield Raspberry, from Mr. FAULKNER, was very fine. G. W.

MIDLAND CARNATION.

AUGUST 6.—The Carnation in all its types was seen in excellent character in the Show House of the Birmingham Botanical Gardens on this occasion. It is an ideal place in which to hold a Carnation show; overhead two large specimen Bougainvilleas were in full bloom, and round the sides, forming a leafy background to the cut blooms, were Fuchsias in bloom and other plants. It was the last exhibition in the Gardens during the Curatorship of Mr. W. B. Latham, and his arrangements were, as usual, excellent. The weather was fine and the attendance was large. The quality of the bloom, as is usual at Birmingham, was very good, the entries numerous and the competition keen.

Self Carnations.—These occupied the foremost place in the schedule of prizes, and there were seven competitors with twelve blooms. [Mr. R. C. CARTWRIGHT, King's Norton (gr., G. Rudd), taking the 1st prize with finely-developed blooms of Ensign (white), Bomba, Sir Bevy's Lustre (rich deep rose), Comet, Seagull (a lovely bluish variety), Benbow (buff), Mrs. E. Hambro, Mrs. Colby Sharpin (bright cinnamon), Germania (still the most refined yellow self), Enchantress, and Mrs. Prinsep (another yellow self). Mr. A. W. JONES, Stechford, was 2nd; he had, differing from the foregoing, Agnes Sorrel, Much-the-Miller (a fine white), Dudley Stuart, Nubian, Tredegone (rose), and Sultan. Mr. C. F. THURSTAN, Wolverhampton, was 3rd with a stand of excellent blooms.

There were twelve competitors with six selfs. Mr. W. H. PARTON, jun., Highfield, King's Heath, taking the 1st prize with superb blooms—Much-the-Miller, Nubian, Barras, Almoner (a fine-petalled yellow), Agnes Sorrel, and Mrs. E. Hambro. The Rev. G. C. GOTTWALTZ, Hadsor, Droitwich, came 2nd; he had Richard Dean (new, a distinct purple self), Burn (bright pale red), John Pope, Avalanche, &c.

Picotees with Yellow Grounds.—These were of very fine quality. Mr. M. R. SMITH, Hayes Common (gr., Mr. C. Blick), taking the 1st prize with twelve finely-developed blooms of Franklyn, Badoura, Countess of Darnley, Daughter of Heth, Lady Avebury, Coquette, Countess of Verulam, Morgiana, Isolt, Approdit, Mrs. Walter Heriot, and Danore, several being novelties not yet sent out. Mr. A. W. JONES came 2nd, also with very good blooms indeed, representing varieties in commerce—viz., Lady Bristol, Hesperia, Gronow, Alcious, Lady St. Oswald, Mohican, Badoura, Mrs. Hadley, and Gertrude, with three others.

There were fourteen competitors with six varieties, and Mr. W. H. PARTON, jun., took the 1st prize with excellent blooms of Gronow, Hesperia, Mohican, Alcious, Lady St. Oswald, and Gertrude.

Carnations, Fancies.—These were very finely shown, and the competitors in classes for twelve and six blooms were many. Here again Mr. W. A. JONES was 1st; he had superb blooms of Voltaire, Queen Bess, Argoe, Oakley, Alexandra, The Gift, Ivo Sebright, Charles Martel, Eldorado, Brodick, Achilles, and Oberon. Mr. R. C. CARTWRIGHT came 2nd, having, differing from the foregoing, Emperor, Amphion, Hidalgo, Euryalus, Pagan, Duke of Alva, and Renegade.

There was a keen competition with six varieties, unfortunately a class which was overlooked in the course of note-taking.

Picotees, White Grounds.—These also were shown in very fine quality. The 1st prize for twelve blooms was awarded to Mr. F. W. GOODFELLOW, who had of red edges Brunette and Morna, heavy; Mrs. Gorton and Thomas Williams, light purple edges; Amy Robsart and Mrs. Openshaw, heavy; Harry Kenyon and Pride of Leyton, light; rose and scarlet edges, Lady Louisa, Little Phil, and Mrs. A. R. Brown, heavy; Fortrose, light. 2nd, Messrs. THOMSON & Co., nurserymen, Sparkhill. They had in good character: Red edges, Brunette and Morna, heavy; Mrs. Gorton, light; purple edges, heavy, Amy Robsart and Mrs. Openshaw; light, Mrs. Gorton; rose and scarlet-edged, heavy, Little Phil, Mrs. Beswick and Mrs. Payne; light, Favourite and Fortrose.

With six varieties, Mr. D. WALKER took the 1st prize out of eleven competitors. He had Fanny Tett, H.P.E.; Clio, H.Ro.E.; Mrs. Openshaw, H.P.E.; Little Phil, H.Ro.E.; Grace Darling, L.Red.E.; and Brunette, H.Red.E. Mr. E. C. ROSSITER was 2nd. He had L.Red.E. Thos. William, H.Red.E. Brunette, H.Ro.E. W. H. Johnson, L.Ro.E. Favourite, H.Ro.E. Little Phil, and H.P.E. Fanny Tett. Mr. C. F. THURSTAN, 3rd.

Carnations, White Grounds.—With twelve blooms, Messrs. THOMSON & Co. were 1st, there being five com-

petitors. They had finely-developed blooms of S.B.'s George, Robert Houlgrave and Robert Lord; C.B. Master Fred; P.B.B. Wm. Skirving and Geo. Rudd; P.F. Gordon Lewis and George Melville; S.F. Guardsman, Sportsman and Meteor; R.F. Mrs. Rowan. Messrs. W. PEMBERTON & SON, florists, Walsall, were 2nd. They had very good blooms also of much the same varieties.

There were nine competitors with six blooms. Mr. F. W. GOODFELLOW was 1st, with S.B. Admiral Curzon and George, C.B. Master Fred, P.P.B. George Rudd, P. F. Gordon Lewis, and S. F. Sportsman; Mr. D. WALKER was 2nd; and Mr. E. C. ROSSITER, 3rd.

Single Blooms.—A very large number of single blooms was staged, and the awards of the judges were as follows, the first three awards being given; where one variety only is mentioned it is because it took all three prizes:—S. B. Robert Houlgrave, C. B. Carnation Master Fred, 1st and 2nd, and J. S. Hedderley; P. P. B. George Rudd, 1st and 2nd; W. Skirving, S. F. Sportsman, in such fine character that it was 1st, 2nd, 3rd, and 4th; R. F. Merton, 1st and 3rd; Mrs. May, 2nd; P. F. Gordon Lewis, H. Red E. Picotee Brunette, L. Red E. Mrs. Gorton, H. P. E. Mrs. Openshaw, 1st and 2nd; Amy Robsart, L. P. E. Pride of Leyton, 1st and 2nd; Lavinia, H. Rose E. Mrs. Payne, 1st and 2nd; Little Phil, H. Scarlet E. Mrs. Sharp, 1st and 2nd; W. H. Johnson, L. Rose E. Fortrose, 1st and 2nd; Favourite, Y. G. Picotee Gertrude, Y. G. Fancy Charles Martel, Brodick, Voltaire, Fancy other than Y. G., Dalgetty, Delightful, and Muletter; Self, white, Ensign, Mrs. E. Hambro; buff, Mrs. R. C. Cartwright, Benbow; scarlet Etna, Isinglass; yellow, Seymour, Corcoran, Goliath, Germania; rose, Lustre, 1st and 2nd, John Pope; dark crimson, &c., Cassandra, Lady Jane Grey, Jocelyn, the second and third heliotrope, the last named much the darkest.

Undressed Flowers.—It was universally admitted that these were very fine, and just in proportion as refinement is secured in new varieties so will the intervention of the dresser be less required. There were classes for twelve and six selfs, and also for twelve and six fancies. Each bloom staged in a small vase with Carnation foliage. Mr. C. F. THURSTAN had the best twelve selfs, and Mr. W. H. PARTON, Jr., the best six selfs; the latter also had the best six fancies, and Mr. CARTWRIGHT the best twelve. Some of the flowers were unnamed.

Eight classes were set apart for blooms staged in threes, in vases with foliage. Mr. A. W. JONES had the best twelve in threes, and Mr. PARTON, Jr., the best six. Six of the classes were for six blooms of one variety, shown in a vase, and this made a very pleasing feature.

There was as usual three classes for novices, in which the competition was numerous and keen; these classes serve as a recruiting-ground to the number of exhibitors.

Premier Flowers: Bizarre, S. B. Robert Houlgrave, from Mr. D. WALKER; flake, P. F. Gordon Leevies, from Messrs. THOMSON & Co.; Heavy-edged Picotee, H. P. E. Mrs. Openshaw, from Mr. F. W. GOODFELLOW; Light-edged Picotee, Pride of Leyton, from Messrs. THOMSON & Co.; Self, Ensign, white, Mr. R. C. CARTWRIGHT; Fancy, Ivo Sebright, Mr. A. W. JONES; Heavy-edged yellow Picotee, Gertrude, Mr. W. H. PARTON, Junr.; Light-edged Y.G. Picotee, Mrs. W. Heriot, Mr. M. R. SMITH. In the undressed sections the Premier Y.G. Picotee was Gronow, Mr. W. H. PARTON; Fancy, Strongbow, Mr. M. R. SMITH; and Self, Sappho, Mr. C. F. THURSTAN.

Floral decorations were represented by shower bouquets (the best from Mr. W. B. LATAM, Botanic Gardens), sprays and button-holes. A class for a round table, 2½ feet in diameter, having an arrangement in Sweet Peas, brought a well-finished one from Mrs. MARTIN, Erdington, which obtained 1st prize. Mr. R. SYDENHAM's special prizes for twelve bunches of Sweet Peas brought several competitors, and some of the finest blooms seen this season.

Miscellaneous exhibits provided pretty features, and Silver-gilt Medals were awarded to Messrs. HEWITT & Co., for Floral Decorations and Cut Flowers; to Messrs. B. R. DAVIS & SONS, Yeovil, for very fine Begonias; and to Messrs. FELTON & Co., for Vases of Carnations and Floral Decorations. Large Silver Medals to Messrs. DICKSONS, Ltd., Chester, for Hardy Flowers; to Messrs. J. H. WHITE & SON, Worcester, for Hardy Flowers, &c.; and to Mr. VINCENT SLADE, Florist, Taunton, for Cut Zonal Pelargoniums. Small Silver Medals were awarded to Messrs. CUTBUSH & SON, Highgate, for Malmaison Carnations; to Messrs. SIMPSON & Co., Birmingham, for Sweet Peas; to Mr. WATTS, for Seedling Carnations; and to Mr. W. SYDENHAM and Mr. W. L. PATTISON, for Cut Violas.

KINGSTON - ON - THAMES FRONT FLOWER - GARDEN COMPETITIONS.

THE interest in these competitions, created a few years since, seems to be still as strong as ever, for this year the number of competitors, or at least of entries, was nearly seventy. The town is, for the competitions, equally divided into North and South sections, and in

each section there are classes for gardens over half a rod in area, for smaller gardens, and for the best decorated window-fronts. In all cases the houses to which gardens or fronts are attached must not be rated higher than £20, neither must any hired labour be utilised.

The best large gardens are found this year in the Northern division, and M. HOMES, who had some singularly pleasing features, just displaces, by two points only, J. PUNTER, who has been 1st in preceding years, with a charming little garden. In the South section window-fronts are best, and J. NORRIS, a carter in the employ of the Corporation, presents a florally decorated house-front with Virginian Creeper for a backing that is indeed a beautiful town picture.

In the six classes thirty prizes have been awarded. The judges were as usual Messrs. J. WRIGHT, V.M.H., and A. DEAN, of the Surrey County Education Committee.

LAW NOTES.

CLAIM FOR GOODS WRONGFULLY REMOVED.

TUDGEY v. L. & S.W. RAILWAY.

THIS case came on for hearing at the Chertsey County Court on Thursday, August 6, and was a claim by Mr. Edward Tudgey, nurseryman, late of Walton, now of Fleet, Hants, for £21 8s. 7d., against the L. & S.W. Railway Company, for goods wrongfully removed. Mr. T. E. H. Chaldecott was for the plaintiff, and Mr. H. L. Cancellor (instructed by Mr. S. Birchar) defended. The plaintiff's statement was that his lease having expired he removed to Fleet. One truck of goods was delivered to another firm at Fleet, where they were utilised. Subsequently he (plaintiff) found this out, and entered a claim for that part of the goods which were destroyed. Mr. Cancellor handed in an invoice on which was printed that the goods were sent at owner's risk. The plaintiff said he had never read it. His Honour (reading) said the consignor agreed to exonerate the company from any liability, damage, or mis-delivery, in consideration of having the goods carried at a lower rate. He then handed the invoice to the plaintiff, remarking, "You had better read that." Mr. Chaldecott said his client had not signed it. Plaintiff: "It was one of my men, or my son." His Honour: At the same time it has been signed by your client's agents. Most people usually do not read the invoice very closely when signing; it is a pity they do not. It seems to me a hopeless case. The next time the plaintiff should read the invoice. I give judgment for the defendant company. Mr. Cancellor: With costs? His Honour: Under the circumstances you might forego that. Mr. Cancellor: We have got a defence on the merits of the case, and I must press for costs. His Honour: Of course, if you press for it you are entitled to the costs.

PRESENTATION.—An interesting event took place at the summer show of the Bishop's Stortford Horticultural Society, which was held on Wednesday in the grounds of The Grange, Bishop's Stortford, by permission of Mr. JOHN BARKER, J.P. It was the presentation to Mr. WILLIAM SMITH, the late Honorary Secretary, of his portrait in oils, in appreciation of the admirable way he has carried out the duties since the formation of the Society in 1870. The presentation was made on the Terrace at The Grange by Mr. TRESHAM GILBEY, the President for the year, in the presence of a large and distinguished party of visitors. The President remarked that since the Society was started it had seen its ups-and-downs, but in Mr. SMITH they had had the right man at the helm, and the show was now the best within 60 miles of London. This was entirely due to the energy and unflinching pluck of their late Honorary Secretary. Sir WALTER GILBEY and Mr. JOHN BARKER endorsed these remarks; and Mr. SMITH, in reply, said the fortunate position he was in was quite as much due to force of circumstances as to his own merit.

FLORAL DECORATIONS AT DUBLIN CASTLE DURING THEIR MAJESTIES' VISIT.—Messrs. CHARLES RAMSAY & SON, the Royal Nurseries, Ball's Bridge, were entrusted with the entire floral decorations of Dublin Castle during their Majesties' visit, including the State apartments, drawing-rooms, Throne-room, St. Patrick's Hall, and King's supper-room. Over 8,000 Roses, 5,000 Bermuda Lilies, and immense quantities of Smilax, Palms, exotic and flowering plants, were used in the decoration of St. Patrick's Hall on the occasion of the Royal Court. The Hall was never seen to better advantage, and the effect produced by the floral adornment was one of a highly artistic character. The balconies at each end of Hall were festooned with garlands of Roses, caught up at the ends with trophies of Lilies. On the top of the balconies were banks of Roses, and at the back of these were Marguerites, Lilies, and foliage plants. The pillars were all twined with garlands of Roses, the total number—all crimson Roses—used in the decoration being over 8,000. Underneath the chandeliers were huge baskets of flowers, Roses and Lilies, with trailers of Asparagus Sprengeri. At both ends of the Hall there were similar baskets of flowers. The grand staircase of the State apartments was handsomely decorated with banks of flowering plants, Ferns, and trailing plants. The King's supper-room was prettily adorned with pink Roses and Lilies, garlands of these flowers being suspended from the ceiling. The mantelpieces were banked also with pink Roses and Lilies, and the Royal supper-table was artistically arranged with pink Bridesmaid Roses and Smilax. The entire decorations reflected the highest credit on the good taste displayed by the firm. *Irish Times, August 12.*



METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period August 2 to August 8, 1903. Height above sea-level 24 feet.

1903.	AUGUST 2 TO AUGUST 8.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERATURE OF THE SOIL AT 9 A.M.			
			At 9 A.M.		DAY.		At 1-foot deep.		At 2-foot deep.	
			Dry Bulb.	Wet Bulb.	Highest.	Lowest.	At 1-foot deep.	At 2-foot deep.	At 4-foot deep.	LOWEST TEMPERATURE ON GRASS.
SUN.	2	S.W.	63° 7'	58° 3'	71° 2'	58° 0'	60° 30'	61° 2'	60° 2'	58° 4'
MON.	3	S.W.	63° 5'	62° 1'	71° 2'	56° 3'	62° 0'	60° 3'	58° 4'	56° 2'
TUES.	4	S.W.	63° 7'	60° 0'	70° 8'	51° 7'	61° 9'	60° 5'	58° 4'	42° 6'
WED.	5	W.S.W.	62° 7'	57° 3'	69° 2'	52° 7'	61° 3'	60° 5'	58° 4'	43° 8'
THU.	6	W.N.W.	61° 4'	55° 0'	69° 7'	49° 3'	60° 7'	60° 3'	58° 4'	39° 2'
FRI.	7	W.N.W.	63° 2'	57° 7'	72° 2'	42° 8'	60° 7'	60° 3'	58° 4'	34° 4'
SAT.	8	S.S.W.	69° 5'	60° 0'	78° 2'	46° 8'	62° 0'	60° 7'	58° 4'	40° 2'
MEANS		...	63° 8'	58° 6'	71° 8'	51° 1'	60° 30'	61° 4'	60° 4'	43° 2'

Remarks.—With the exception of a little rain on the 2nd inst., the weather during the week has been fine and bright.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Aug. 8, is furnished from the Meteorological Office:—

"The weather.—Very unsettled, showery conditions prevailed generally throughout the British Isles during the first half of the period, and continued to a more or less extent over the northern and western districts to

the close; but over the southern and eastern parts of England the weather was much finer and drier after the middle of the week. On the western and southern coasts a good deal of mist or fog was reported in the earlier part. Thunder occurred at Marchmont on Thursday, and at Markree Castle and Plymouth on Saturday. On Wednesday a large meteor was observed at Scarborough, falling nearly vertically.

"The temperature equalled the average in Scotland, E. and W., England, N.E. and N.W., and in the Channel Islands, all other districts returning a deficit of 1°. The highest readings were observed on various days, the maximum of 79° in London and 77° at Cambridge and Jersey occurring on Saturday. Many of the northern maxima were below 60°. The lowest night values were recorded in the inland parts of England and Ireland during the fine spell of the second half of the week, 38° in the shade being registered at Swarraton and Markree Castle, and 39° at Cirencester.

"The rainfall, although frequent, exceeded the average only over Scotland and the North of Ireland. In the Channel Islands the amount was very trifling, and in several parts of England and Ireland the aggregates were from one-third to one-half the average. At Blackpool 1.1 in. fell on Sunday, and at Fort William 1.2 in. on Saturday, but as a rule the individual falls were small.

"The bright sunshine was deficient in the North of Scotland, but over the rest of the country there was an excess as much as 10 to 19 per cent. in some districts."

THE WEATHER IN WEST HERTS.

For more than a month there have occurred only two seasonably warm days, and on five nights during that period the exposed thermometer indicated readings within 8° of the freezing point. On the one warm day of the past week, the temperature in the thermometer screen rose to 75°, which, although only about 5° above average, was nevertheless the highest reading recorded here for nearly a month. At 2 feet deep the ground is now of about seasonable warmth, but is still 2° colder than the average at 1 foot deep. No rain fell during the six days ending the 8th, but the last two days have been very showery. The total fall for these two days was, however, less than ½ inch. No measureable quantity of rain-water has now come through the bare soil percolation gauge for three days, and not any for five days through the gauge on which short grass is growing. The sun shone on an average for seven hours a day, or for more than an hour a day in excess of the August average. The winds were again as a rule rather high, and came mostly from some westerly point. The amount of moisture in the air in the middle of the day proved variable, but taking the week as a whole there was more than a seasonable quantity. *E. M., Berkhamsted, Aug. 11, 1903.*

MARKETS.

COVENT GARDEN, August 13.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Artichokes, Globe, per dozen	0 6-10	Mint, per dozen bunches	2 0-2 6
Beans, dwarf, per sieve	1 6-20	Mushrooms, house, per lb.	0 8-0 9
— broad, bush..	1 0-1 6	Onions, per case	4 0-5 0
— Scarlet Runners, p. sieve	1 6-20	— per bag	3 0-3 6
Beetroots, per doz. bunches	2 0-30	— green, per dozen	1 6-2 6
Cabbages, tally	3 0-5 0	Parsley, per doz. bunches	1 6-20
Carrots, new, per dozen	0 9-10	— sieve	0 9-10
Cauliflowers, per dozen	2 0-30	Peas, per bag	3 0-6 0
Celery, per dozen bundles	9 0-10 0	— per bushel	3 6-4 0
Cress, per dozen punnets	1 3 —	Potatoes, per ton	70 0-100 0
Cucumbers, per dozen	1 6-2 6	Radishes, per dozen bunches	0 6-0 9
Endive, per doz.	1 6 —	Salad, small, punnets, per doz.	1 3 —
Garlic, per lb.	0 2 —	Spinach, pr. sieve	1 3-1 6
Horseradish, foreign, p. bunch	1 8-2 6	Tomatoes, Channel Islands, per lb.	0 2-0 2 ½
Lettuces, Cabbage, per dozen	0 6-0 9	— English, per 12 lb.	2 0-3 0
Lettuce, Cos, per score	0 6-1 6	Turnips, new, per doz. bunches	2 0-3 0
		— per bag	3 0 —
		Vegetable - Marrows, per dozen	0 9-1 0
		Watercress, per dozen bunches	0 4-0 6

CUT FLOWERS, &c.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Alstroemeria, doz. bunches	4 0-6 0	Cilly of the Valley, p. doz. bunches	6 0-18 0
Asters, bunches...	0 3-1 0	Lupins, doz. bun.	3 0-4 0
Azaleas, doz. bun.	2 0-4 0	Malva, doz. bun.	4 0-6 0
Carnations, per doz. bunches	2 0-12 0	Marguerites, yellow, doz. bunch.	1 0-2 0
— Malmansions, doz.	6 0-12 0	Mignonette, doz.	2 0-3 0
Coreopsis, dozen bunches	1 0-2 0	Moatbratias, per dozen bunches	4 0-6 0
Dahlias, per doz. bunches	3 0-6 0	Orchids: Cattleya, dozen blooms...	6 0-12 0
Eucharis	2 0-3 0	Pelargonium, zonal, dozen bunches	4 0-6 0
Ferns, Asparagus, per bunch	1 0-2 6	Phlox, per dozen bunches	4 0-6 0
— French, per doz. bunches	0 4-0 6	Poppies, Iceland, p. doz. bunches	0 6-1 0
— Maidenhair, doz. bunches	4 0-6 0	Roses, Hermet, per doz.	1 0-2 0
Gardenias, p. box	1 6-3 0	— various, per bunch	0 2-1 6
Gladiolus, White, doz. bunches	2 0-3 0	— red, 12 bnchs.	2 0-6 0
— Blushing Bride, dozen bunches	4 0-6 0	— white, bunch	0 6-2 0
— Breckleyensis, per bunch	0 6-1 0	— pink, bunch	0 4-1 6
— various, bnch	0 6-1 0	Smilax, doz. trails	1 6-2 6
Gypsophila, bun.	0 2-0 4	Stenactis speciosa (pale mauve), doz. bunches	2 0-3 0
Liliums, longiflorum, per bunch	1 0-2 0	Stephanotis, per dozen	1 0-1 6
— lancifolium, per bunch	1 6-2 0	Stocks, per dozen bunches	2 0-4 0
— candidum, per bunch	1 0-2 0	Sweet Peas, per dozen bunches	1 0-3 0
— rubrum, bnch.	1 0-2 0	Tuberose, strong, per bunch	0 9-1 0
— auratum, bnch.	1 0-2 0	— per dozen	0 2-0 3

PLANTS IN POTS, &c.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Acers, each	2 0-2 6	Gaillardia, dozen bunches	1 0-2 0
Adiantums, doz.	4 0-8 0	Hydrangeas, doz.	8 0-24 0
Aralias, per doz.	4 0-8 0	Lilium longiflorum, per doz.	6 0-12 0
Arbor Vitae, per dozen	9 0-18 0	— lancifolium, per dozen	6 0-12 0
Aspidistras, doz.	18 0-36 0	Lycopodiums, p.	3 0-4 0
Aucubas, per doz.	4 0-8 0	Marguerites, doz.	3 0-12 0
Callas, per dozen	2 0-3 0	Mignonette, doz.	4 0-6 0
Campanulas, doz.	4 0-6 0	Orange-trees, each	3 0-7 6
Coleuses, per doz.	4 0-5 0	Palms, var., each	3 0-20 0
Coreopsis, dozen	4 0-6 0	Pelargoniums, — Oak-leaved, scented, doz.	3 0-4 0
Crassulas, dozen	8 0-12 0	— pink, per doz.	4 0-6 0
Crotons, per doz.	12 0-24 0	— scarlet, doz.	3 0-6 0
Dracenas, variety, dozen	12 0-48 0	Petunias, p. doz.	3 0-4 0
Euonymus, vars., per dozen	4 0-6 0	Pteris tremula, doz.	4 0-8 0
Ferns in var., per dozen	4 0-30 0	— Wimssett, doz.	4 0-8 0
— Japanese balls, &c., each	1 0-1 6	Rhodantes, per dozen	2 0-4 0
Ficus elastica, per dozen	9 0-24 0	Verbenas, dozen	4 0-6 0
Fuchsias, p. doz.	3 0-6 0		

FRUIT.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Apples, home-grown, per half bushel	3 0-8 0	Grapes, Muscats, B., per lb.	1 0-1 6
Apricots, per doz.	1 6-3 0	Gooseberries, per sieve	4 0 —
Bananas, bunch..	8 0-13 0	Lemons, per case	6 0-12 0
— loose, dozen.	1 0-1 6	Melons, each	0 10-2 0
Currants, Red, per sieve	5 0-6 0	Nectarines, A., per dozen	12 0-18 0
— Black, sieve...	12 0 —	— B., per doz.	3 0-6 0
Figs, per dozen	1 0-3 0	Oranges, per case	13 0 —
Grapes, Alicante, per lb.	0 10-1 6	Peaches, A., per dozen	7 0-12 0
— Gros Maroc, lb.	0 10-1 6	— B., per dozen	1 0-4 0
— Hamburgh, A., per lb.	1 6-2 0	Pines, each	2 6-5 0
— B., per lb.	0 8-1 0	Plums, per sieve	7 0-11 0
— Muscats, A., lb.	2 0-3 6	Raspberries, per dozen punnets	6 0 —

REMARKS.—Californian Plums in cases sell for 12s.; Cape Lemons, of good colour and texture, in cases of about 200, fetch 6s. to 8s.; Melons, in cases of 24 or 36, 8s. to 10s.; French William Pears, in sieves 12s., and in boxes 8s. to 7s.; Gages in sieves sell for 8s. to 12s., those in boxes 1s. 6d. to 2s. 6d. Broad Windsor Beans in bags fetch 2s., Dwarf Beans in bags 2s. 6d., Runners 2s. to 2s. 6d.; outdoor Mushrooms, in sieves or half-bushels, 2s. to 2s. 6d.

POTATOS.

Home-grown, 70s. to 100s. per ton. *John Bath, 32 & 34, Wellington Street, Covent Garden.*

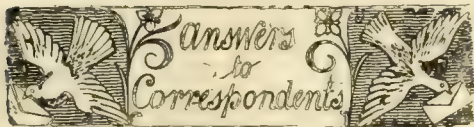
FRUITS AND VEGETABLES.

GLASGOW, August 12.—The following are the averages of the prices during the past week:—Apples, Lisbon, 12s. to 15s. per case; Oranges, Naples, 9s. to 12s. per box; Lemons, 6s. 6d. to 10s. per box, and 10s. to 14s. per case; Melons, 6s. 6d. to 9s. per case; Grapes, English, 1s. 3d. to 2s. 6d. per lb.; do., Denia, green, 5s. to 7s. per barrel; do., black, 11s. to 13s. per barrel; Strawberries, 4d. to 10d. per lb.; Plums, French, 2d. to 6d. do.; do. Gages, 7d. to 9d. do.; Currants, red, in tubs for preserving, 16s. per cwt.; Gooseberries, Scotch and Irish Warringtons, 24s. to 28s. per cwt.; Mushrooms, 1s. to 1s. 6d. per lb.; Tomatoes, 5d. to 8d. do. Onions, 3s. 6d. to 5s. per case; Dutch Carrots, 5s. 6d. to 6s. per hamper.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending August 8, 1903, and for the corresponding period of 1902, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1902.		1903.		Difference.	
	s.	d.	s.	d.	s.	d.
Wheat	31	7	29	3	—	2 4
Barley	24	11	20	1	—	4 10
Oats	22	11	18	8	—	4 3



**** EDITOR AND PUBLISHER.**—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

A REMEDY FOR AMERICAN-BLIGHT ON APPLE AND OTHER TREES: P. K. The small quantity sent was tried on American-blight on a small Apple-tree, the preparation being applied with a camel-hair pencil, in order to make the most of it. It seemed to spread over the cankered surfaces and into the cracks in the bark very readily, and the American-blight soon vanished from the parts to which the preparation was applied, leaving the surface of the worst-affected parts clean, and seemingly benefited by the application. The quantity available being so small, only a patch of American-blight here and there could be treated, and the greater part remained at the mercy of the pest. Notwithstanding that the parts in which the American-blight was left untouched were close to the parts from which they had been cleaned, the portions treated have not shown a fresh crop.

BEGONIAS CRIPPLED IN LEAF AND SHOOT: Perplexed. Caused by an exceedingly minute mite. Wash the plants with mild soap-suds in which a little commercial tobacco water is mixed.

BOOKS: W. R. T. We are not booksellers; but if the seven volumes are in good condition they ought to be worth at least 7s. 6d. a volume.

BLACK HAMBURG GRAPES RIPENING WHEN OF THE SIZE OF PEAS: A. C. We are unable to name the cause. Please send materials for examination.

CATTLEYA WAERSCWICZII (GIGAS) GROWING: O. G. As new growth has started you had better suspend the plant, or place it on an inverted flower-pot in a light situation in a warm house, and afford water carefully until the growth is completed. It is not unusual for this Cattleya to start fresh growth after flowering.

CONSUMPTION CURE: M. B. It would be arrant quackery and reckless cruelty on our part to affirm or endorse anyone else's affirmation that the leaves you speak of would cure consumption. They might palliate certain symptoms, or perhaps even aid in preventing the onset of the disease, but to cure it by such means is to attempt the impossible. M.D.

CUCUMBER: P. D. We cannot quite make out the position of the fruit from the photograph; accepting your explanation as correct, it is very unusual.

FUNGUS: M. M., Croydon. Lycoperdon giganteum. Cut in slices and fried it is excellent and safe eating, so long as it retains its snow-white colour.

GARDENERS' REFERENCES: E. B. You cannot be compelled to return them to the gardener under the circumstances.

GRAPES: Perplexed. The fruits sent are affected with Spot-fungus (Glæosporium), frequently mentioned in the *Gardeners' Chronicle*.

GRAPES MILDEWED: Crawford. The fruits are suffering from mildew (Oidium), and doubtless the foliage and shoots likewise. Stagnant air in the vinery favours its development, and where the disease has once appeared there must be great care in damping and syringing. Flowers-of-sulphur in some form is the only remedy, the better way of applying it being to dust it over the Vines, and in the course of a few days to syringe it off the Vines.

GLASSHOUSE ROOFS: T. W. B. Galvanised iron, with or without putty, no laps to the panes, but instead butted ends, cut true. Roofing bars set 12 inches apart; panes 3 feet long, weight of glass 16 ozs. per foot. No paint is needed for galvanised iron, but Carson's anti-corrosion or ordinary paint may be used if the metallic colour is not liked.

KOCHIA: T. H. H. It is the natural thing for the plant to turn to a reddish colour; indeed, that is one reason why it is grown. Instead of asking for a remedy you should be glad to welcome the change.

LABOUR IN GARDENS, GROUNDS, PLANT AND FORCING-HOUSES, AND FOR KEEPING CLEAN 1½ MILE OF CARRIAGE-DRIVES AND 1½ MILE OF GRAVEL-WALKS: A. J. P. Twelve able-bodied men and one boy. If many of the workmen are aged, as is commonly the case, fifteen to sixteen might be necessary. We can, in answering questions such as this at a distance, only give a rough guess.

NAMES OF FRUITS: J. Kerss. Nectarine, No. 1, Pitmaston Orange if the glands are round and flowers large; No. 2, Fairchild's Peach Barrington. All the fruits deficient in flavour.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—

A. E. M. 1, *Cephalotaxus Fortunei*; 2, *Bocconia cordata*; 3, *Olearia Haasti*; 4, *Mimulus glutinosus*.—W. B. 1, *Linaria striata*; 2, *Sidalcea malviflora*; 3, *Campanula Rapunculus*; 4, *Erigeron speciosus*; 5, *Sedum kamschatcicum*; 6, *Campanula rotundifolia alba*.—T. W. R. 1, *Pyrus americana*; 2, *P. intermedia*; 3, ditto, "Oak," *Quercus macrocarpa* var. *olivaeformis* probably. "Wild plant," *Ononis spinosa*, *Juniperus sphaerica*.—Young Gardener. 1, *Matricaria inodora*; 2, *Potentilla Tormentilla*; 3, *Achillea Millefolium*; 4, *Hypericum quadrangulatum*; 5, not found; 6, *Solidago virga aurea*; 7, *Prunella vulgaris*; 8, *Lathyrus pratensis*; 9, *Galium uliginosum*; 10, *Lotus corniculatus*; 11, *Stachys silvatica*; 12, *Scrophularia nodosa*; 13, *Linaria vulgaris*; 14, *Achillea Ptarmica*; 15, *Bartsia Odontites*; 15A, *Solanum dulcamara*; 16, *Inula dysenterica*; 17, *Hypericum pulchrum*; 18, *Melampyrum arvense*.—T. Allium vineale (Crow Garlic).—W. D. *Hieracium aurantiacum*.—W. C. B. The loose flowers are those of *Eucomis punctata*; 1, *Cœlogyne Massangeana*; 2, not recognised, send again with particulars as to the nature of the plant.—W. A. 1, *Cypripedium ciliolare*; 2, *Cypripedium Curtisii*; 3, *Cypripedium exul*.—X. Y. Z. *Spiræa Nobleana*.—T. W. C. 1, *As-trantia major*; 2, *Alonsoa incisifolia*. Thanks for postal order, it has been placed in our collecting-box for the Gardeners' Orphan Fund.—W. T. *Hibiscus syriacus* (*Althæa frutex* of gardens).—W. R. M. *Aira cœspitosa*.—L. G. P. *Gaura Lindheimeri*.—W. T. The grass sent is too coarse for the purpose you mention.—Tunbridge. 1, *Hypericum Androsæmum*; 2, *Olearia Haastii*; 3, *Cimicifuga racemosa*; 4, *Lythrum Salicaria*; 5, *Veronica spicata*; 6, *Spiræa* (send leaf).—W. E. A *Lysimachia*; looks like the common wild one, but specimen is imperfect.—F. M. D. 1, Either *Deodar* or *Cedar of Lebanon*—we cannot tell the difference from the scrap sent; 2, *Saxifraga hypnoides*, probably no flowers; 3, *Lonicera brachypoda*; 4, *Nymphæa alba*, small variety.—S. K. B. The leaf is that of *Hymenocallis littoralis*; the

small plant, *Richardia Pentlandi* (yellow *Richardia*). Both grow well in an intermediate-house; and the *Richardia* may be planted out in summer, and lifted and potted in autumn.—W. D. 1, *Taxodium distichum*; 2, *Gleditschia triacanthos*; 3, *Rhus cotinus*; 4, *Eurya latifolia*; 5, *Gesneriad* (next week); 6, *Campanula Trachelium*, double fl.

PEA-HAULM DYING: A. J. P. The haulm is infested with mildew, and the roots have become rotten in consequence of a water-logged condition of the soil.

PEACH: D. Field. We are unable to name the variety from the fruit only—which, by the way, was not nearly ripe. You should have sent a shoot with leaves attached, and stated the size of the flowers.

PEACHES DISEASED: Crawford. The fruits have cracked and fungus has entered the stone, killing the kernel. The cracking may be due to too little moisture in the soil at one time and too much at another. You should keep the soil in a uniform state as regards moisture.

POTATO-TUBERS ON THE HAULM: C. T. & Co. Not uncommon. Often the result of injury to the underground tuber by wireworm or spade-thrust.

SHOT-HOLE FUNGUS: W. Priest. The attacks of this species, *Cercospora circumsissa*, are likely to be renewed from year to year, being favoured by the dispersion of the dropped-out portions of the leaf bearing conidia or spores. Use against it the ammoniacal solution of copper carbonate—the first time when the leaves are expanding, and repeating at intervals. The Bordeaux-mixture is too irritant for use on Peaches, &c.

SPOTTED TOMATO-SEEDS: John Kitley. I put about a dozen seeds in water for twelve hours, to soften and remove the cuticle for examination. At the end of the time only one seed showed any sign of a spot, and this was found to consist of cells like the rest, but of a brown colour, as if stained. Twenty other seeds were next put in water for twenty-four hours. At the end, only three showed a small irregular brown spot—found to be discoloured tissue; in all the rest the spots had vanished. Not a trace of mycelium or spore or parasite of any kind. M. C. C.

UNFRUITFUL STRAWBERRY PLANTS: A. B. E. The unfruitfulness may have arisen from the preponderance of female, and great or entire lack of male (pollen-bearing) flowers. This state of things may be brought about by the gardener selecting the runners always from the strongest (female) plants, which of course produce only female flowers, or males that are poorly supplied with pollen. In this manner it is easy for certain varieties to degenerate and become to a great extent barren. The genus is naturally dioecious, i.e., unisexual, bearing the male and female elements in different individuals. Some varieties are more inclined to degeneration than others.

COMMUNICATIONS RECEIVED.—Prof. Hansen, Copenhagen.—M. Gerome, Paris.—Sir G. King.—W. G. S.—J. H.—E. G.—National Dahlia Society.—W. G. S.—Dr. Henry.—M. C. C.—Hans Werdermuller, Massachusetts.—W. Trelease, St. Louis.—B. C. Tipper & Co.—H. Kempshall.—E. W. G.—R. J. A. and F. B. H., too late for acceptance.—P. D.—A. H.—W. R. T.—Pennick & Co.—M. B.—Cannell & Sons.—J. T. H.—J. E. T., Karotonga.—G. W. F.—Sir D. M., Barbados.—G. W.—E. M.—W. Hutchinson.—R. J. A.—W. H. A.—A. D. R.—H. W. W.—J. J. W.—W. R. P.—E. C. P.—E. C.—C. T. D.—S. C.—J. D.—W. E. M.—A. Bateman.—A. Ballard.—J. P. T.—R. & Sons.—A. R.—T. A. R.—J. Allen.—W. B. H.—W. W.—E. R., Ghent.—Sir Thomas Hanbury.

GARDENING APPOINTMENTS.

MR. W. HOPKINS, late Head Gardener at Broadlees, Reigate, as Head Gardener to F. WELLESLEY, Esq., Westfield Common, Woking.

MR. H. KEMPSTALL, until recently Head Gardener at Gravey Manor, East Grinstead, and formerly Head Gardener for six and a half years at Lamport Hall, Northampton, as Head Gardener to the Earl of ILCHESSTER, Abbotsbury Castle, Dorsetshire.

MR. G. DYMOTT, formerly Gardener at Heronfield, Potters Bar, as Gardener to G. D. NEWTON, Esq., Croxton Park, St. Neots.

MR. H. TULL, until lately Head Gardener at Higham Hall, Woodford Green, Essex, and formerly Head Gardener to the Rev. Canon COVENTRY, Severn-Stoke, Worcester, as Head Gardener and Bailiff to V. MARTINEAU, Esq., Hurst Lodge, near Twyford, Berks.

THE LAKE IN THE MEN'S RECREA-
TION GROUND AT BOURNEVILLE,
NEAR BIRMINGHAM, THE PRO-
PERTY OF MESSRS. CADBURY
AND CO.



CACAO PLANTATION BELONGING
TO MESSRS. CADBURY AND
CO., MARACAS VALLEY,
TRINIDAD.





THE

Gardeners' Chronicle

No. 869.—SATURDAY, AUGUST 22, 1903.

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ROSES AT NEWTOWNARDS.

ON the evening of the National Rose Society's magnificent exhibition in Glasgow, which was held on July 15 last, six members of that Society proceeded to Greenock, and thence by steamer to Belfast, under the guidance of one of the members of the party. On the following morning a pilgrimage was made to Newtownards, renowned throughout the world as the birthplace of many of the best of our modern Roses. On the arrival of the pilgrims at the nurseries, they received a most hearty welcome from Mr. George Dickson and the members of his family. After a short delay, in the hope that the rain, which had just set in, would cease, a move was made to the Rose-grounds. Here the party was joined by their chaplain, also a keen rosarian, and a member of the National Rose Society.

Under the untiring directorship of the brothers Dickson, the pilgrims plodded slowly up and down the apparently endless lines of new Roses. I say "slowly," because every few steps some attractive variety claimed attention, and had consequently to be commented on and its distinctive qualities duly noted. For five hours altogether, notwithstanding the steady downpour, they pursued with unflagging interest their in-

vestigations. Had any of their non-rosarian friends been present to watch the movements of these dripping enthusiasts, I am afraid they would not have formed a very high opinion of their mental qualifications. When I state that throughout the five hours no row was visited twice, and that new Roses only were inspected, some idea may be formed of the extent of the work undertaken by Messrs. A. Dickson & Sons at their nurseries in Rose-raising alone. Several thousand new varieties must have been inspected. Had the whole of the collection been in bloom, eight or ten hours would have been necessary to give the choicer kinds even moderately careful examination.

On the part of our conductors there was no attempt to hurry us through the exhibition; indeed, they appeared just as enthusiastic and interested as ourselves, and more particularly so when they happened to come across a variety which they had not themselves previously seen in flower. Had not the pilgrims at last cried, "Hold—enough!" they would have been carried off, wet, tired, and muddy though they were, to some distant field to inspect the remainder of the collection.

There are certain qualities about nearly all the Newtownards seedlings which are very striking—namely, the unusual substance and depth of the petals, and the freedom of flowering of the varieties. No doubt the moisture-holding soil, and the softening influence on the climate of the sea-breezes, may have been to some extent factors in emphasising these all-important qualities in any new Rose; for flimsy-petalled Roses are not suitable for this climate, and must ultimately be superseded by those which will better withstand the humid and uncertain weather of our islands. The plants, too, seemed to appreciate the favourable conditions in which they were placed, for even on the unmanured plots they presented a healthy appearance, and had made good growth. No greenfly was anywhere visible, and not a spot of mildew—two pests which this year have worried so many rosarians in the Southern and Midland counties of England.

With such a large number of beautiful varieties, seen for the first time, it was extremely difficult to pick out the real gems. It was like a connoisseur tasting different choice vintages of some particular wine, for we became at last so bewildered that it would have been impossible to decide off-hand on which varieties our choice would have fallen had we been asked to select the best dozen sorts, or even the best twenty-four, where the standard throughout was so high.

The firm, after years of careful cross-breeding and selection, have now obtained a distinct strain of pedigree Roses of their own, which they are crossing with well-known types of existing varieties with the most promising results. The strain consists principally of hybrid Teas, with here and there pure Teas, bearing larger flowers and of more vigorous growth than is usually met with in that section.

One member of our party, a professional grower and himself the raiser of many choice Roses, who had not visited the Newtownards nurseries for several years, expressed himself as much impressed with the

clear advance in general quality of the seedlings that had taken place even during that period.

Coming now from generalities to particulars, and taking in the first instance the creamy, lemon, and blush-whites, there were several which may be best described as improved Kaiserin Augusta Victoria, like the beautiful lemon-white Mrs. David McKee, which received the Gold Medal of the National Rose Society at the Glasgow exhibition the day before—varieties of stiff upright habit, with conical flowers with high centres.

Other fine sorts are Duchess of Westminster (salmon-white), and Countess Annesley (rosy-cream). The pink and pale rose-coloured varieties, as is usual with seedling Roses, are more numerous than any others. Of these may be mentioned Lady Ina Bingham, easily distinguished by its bold foliage. This is a semi-double garden variety with grand guard petals of a pure rose-pink colour, like Camoens. Dr. Campbell Hall, named after the amateur Rose champion of Ireland, is a fine silvery-pink variety with a deeper centre, and is, we understand, to be distributed next year. The largest blooms that came under our notice were about the size of Her Majesty, with the character of Caroline Testout. The large deep pink flowers and bold habit of this Rose at once commanded attention. Lady Ashtown is also a distinct and fine deep pink variety.

In turning to the yellows we could not but feel how much these are still wanted among exhibition Roses, and how greatly any stand is lighted up as it were and improved by their insertion. There were several lemon-yellow varieties which delayed the footsteps of the pilgrims for some time. One was like Medea at its best—in fact, an improved and more certain Medea, and with more upright growth. Then another gem was after the style of Madame Hoste, but stronger and finer than that variety. The colour is unique, shading as it does from lemon-yellow to deep bright-yellow halfway down the petals. Shortly afterwards we came across a lovely button-hole Rose, pure self-coloured orange, like William Allen Richardson; and another orange, tinged red, like Lady Penzance. There are also varieties of other shades of yellow, ranging from creamy-yellow to rich orange. Some of these varieties, should the raisers decide on sending them out, will, I feel sure, be warmly welcomed as decided acquisitions by all classes of Rose-growers.

Among other seedlings of various colours which arrested our attention may be mentioned in fortuitous order the following:—Dean Hole, a fine hybrid Tea, with the colour of Maman Cochet, and like that variety it has an excellent habit of growth. Then early in the day we spent several minutes examining a new Tea Rose, which may be best described as a strong-growing Souvenir d'Elise Vardon. Mention must also be made of another Tea with flowers after the style of Cleopatra, but of upright bushy growth. One of the most distinct Roses that came under our notice was somewhat after the character of Mrs. W. J. Grant, but fuller, and in colour like Marquise Litta. Here and there were one or two promising crimsons, and among them that very attractive variety, C. J. Grahame; but

unfortunately at the time of our visit few of the dark Roses were as yet in flower.

What is likely to prove one of the most generally popular varieties of the whole series is a Rose which would form an admirable companion to Killarney, being of the same type of flower and habit, but in colour a pale rosy-copper. The christening of this variety by the pilgrims, with our genial chaplain as chairman, formed one of the most picturesque incidents of our visit. After many names had been discussed it was suggested, with the approval of the raisers,

at Manchester will ever forget it. Indeed, I need scarcely say that on that occasion the Gold Medal of the National Rose Society was without a moment's hesitation unanimously awarded it. For who could have any doubt of its merit after seeing such a display of perfect Caroline Testout-like flowers? It reminded me of the long line of boxes of Her Majesty shown for the National Rose Society's Gold Medal by the late Mr. Bennett at South Kensington in 1883.

Now that Roses are being so largely used

gratefully acknowledge, and only hope that our chaplain will not forget, when compiling his next list of Irish characteristics, to give a prominent place in it to "Irish hospitality," of which we experienced at Newtownards so striking an example.

As an indication of the sterling novelties that rosarians may expect from the nurseries at Newtownards in the future, and of the leading position Messrs. A. Dickson & Sons have already obtained, I append the following particulars of varieties sent out from those nurseries which are now in general cultivation.

On reference to the National Rose Society's *Official Catalogue of Exhibition and Garden Roses*, I find that out of the thirty-three exhibition varieties included in it which are ten or fewer years old, that as many as eighteen, or more than half that number, were raised at Newtownards. Then in my analysis of the exhibition Roses most frequently staged in the prize stands at the last eight metropolitan exhibitions of the National Rose Society, and which appeared in the *Journal of Horticulture* in October last, Messrs. A. Dickson & Sons will be seen to be again to the fore. In the table of Hybrid Perpetuals and Hybrid Teas, Bessie Brown heads the list; and Mrs. W. J. Grant and Mrs. R. G. Sharman Crawford occupy the fifth and sixth positions; while Mrs. Edward Mawley stands No. 5 in the table of Teas and Noisettes.

Enough has, I think, been said to give at least some idea of the surprising extent and beauty of the new Roses that are being raised at the Royal Nurseries at Newtownards. I can only say on behalf of those of our party who had not visited these nurseries before, that we felt, like the Queen of Sheba after visiting King Solomon, that the half had not been told us. *Edward Mawley.*

NEW OR NOTEWORTHY PLANTS.

CROSSOSOMA CALIFORNICUM.*

To Mr. Gumbleton must be attributed the credit of being the first to flower this interesting shrub in Europe. Both in the leaves and the flower before us there is a superficial resemblance to *Carpenteria*. The glabrous leaves are lanceolate, entire, about $2\frac{1}{2}$ inches long by $\frac{1}{2}$ inch broad, tapering to a very short stalk. The flowers are solitary, on long, slender stalks, about inch in diameter, with five spoon-shaped reflexed sepals, and as many rounded, white, shortly-stalked petals. Stamens numerous, perigynous, yellow, carpels five or six, free, distinct. Probably the flowers will eventually be larger than the one now sent by courtesy of Mr. Gumbleton.

This is one of several curious plants or varieties confined so far as known to the islets off the Californian coast, and probably on the high-road to extinction, if not preserved in the gardens of the curious. It is placed among the *Ranunculaceæ*, but the perigynous stamens attached to the edge of the short flower-tube, suggest *Saxifragæ* rather than *Ranunculus*. Engler makes it the type of a new natural order near *Rosaceæ* (*Naturl. Pflanzen famil. Nachtrage*, p. 185, 1900). *M. T. M.*

* *Crossosoma californicum*, Nuttall ex Brewer & Watson, in *Botany of California*, vol. i., ed. 2, p. 13 (1860) (ed. 1, 1876).—"A stout diffuse shrub 4 feet high, with whitish wood, and grey bitter bark; leaves oblong, 1 to 3 inches long, attenuate [tapering] to a very short petiole; flowers large, on long stout peduncles; petals orbicular, 6-9 lines long; carpels oblong, 8-12 lines long, 20-25 seeded; seeds over a line in diameter, with a shining crustaceous testa, covered with the brown fringe of the arillus." Catalini island, Guadeloupe island.



FIG. 50.—*CROSSOSOMA CALIFORNICUM*, CALIFORNIAN SHRUB, FROM THE GARDEN OF W. E. GUMBLETON, ESQ.

The isolated flower shows the funnel-shaped calyx tube, the spoon-shaped sepals, &c. Flowers white, produced for the first time in Europe.

to name it "Betty," after a charming little grand-daughter of our host. Ultimately the name was changed to "Lady Betty." The pilgrims were also permitted to name a Rose after Lady Helen Vincent, who so graciously performed the opening ceremony at the National Rose Society's exhibition at Exeter last year. In accordance with her Ladyship's request a variety was selected somewhat after the colour of Mrs. Edward Mawley.

In one part of the nursery were noticed fine rows of Bessie Brown and Mildred Grant, also of Edith D'Ombra (a pink variety of dwarf but very sturdy growth) and of Florence Pemberton. Few who saw the huge bowl of Florence Pemberton submitted to the judges of new seedling Roses last year

for garden decoration, the greatest want in the Rose-world is a race of hardy, perpetual-flowering, climbing, or rambling Roses. This want I was pleased to see the firm at Newtownards were endeavouring to meet. To raise any number of varieties combining the necessary vigour, hardiness, and freedom of flowering, must necessarily be a work of time; but the brothers Dickson have overcome so many difficulties in the past that there can be no room for doubt but that they will ultimately succeed in giving us at no distant date the type of climbing Rose required.

The warm reception accorded to us by the Dickson family on the occasion of our delightful visit we pilgrims one and all

ANGRÆCUM ROTHSCILDIANUM, n. sp.
(see fig. 51).

A fine plant from the little-known country of Uganda, in the direction of the Victoria Nyanza. It flowered with the Hon. Walter Rothschild, and was awarded a Botanical Certificate at the Royal Horticultural Society held on August 4 last. The species belongs to a section never introduced into gardens, and the only other representative of which is *Angræcum Galeandæ*, Rehb. f. in *Flora*, 1865, p. 189, and which is enumerated in *Flora of Tropical Africa*, 7, p. 136.

A. Galeandæ was recorded from Lower Guinea and Angola (Welwitsch), and there is good material of it in the Kew Herbarium. Its leaves are narrowly cuneate and unequally bilobed, and the plant is very different from *A. Rothschildianum*. The flowers are allied. There is no record of colour in *A. Galeandæ*, although it is a very striking feature in *A. Rothschildianum*, and could not fail to be remarked on in any similar species if it existed.

A. Rothschildianum.—Habit of growth similar to that of *A. bilobum*; stem 3 to 6 inches high, leaves ovate, unequally bilobed, rarely cleft at the apex, the longer lobe being simply continued beyond the shorter one, very dark-green, 4 to 8 inches long, 3 inches broad; scape deflexed or pendulous (as much as 1 foot long, and bearing twelve flowers on the old imported spikes), four-flowered on the plant described. Bracts small, triangular, and closely clipping the stem. Pedicels $\frac{1}{2}$ -inch long. Flowers closely and alternately arranged, very fragrant, white with a pale green band up the middle of the sepals and petals; a rich emerald-green disc and blackish-purple base to the lip. Sepals lanceolate, apiculate, 1-inch long petals slightly broader and shorter. Lip and spur $1\frac{3}{4}$ inch long, the broad wavy edged ovate front, pure white on the margin, rich emerald green in the centre, and blackish-purple in the funnel of the spur, the tip of which $\frac{1}{2}$ -inch in length is enlarged, laterally compressed, and recurved abruptly; spur brownish at the point, green on the broader middle portion. This charming plant is one of the discoveries of Major H. B. Rattray, of the King's African Rifles, when on one of his expeditions into new country. The delays of transit and the heat of the Red Sea, however, nearly destroyed these and other fine species sent at various times. James O'Brien.

MESEMBRYANTHEMUM MIRABILE,
N. E. Brown (n. sp.).

This is a pretty dwarf tufted species, with white flowers, belonging to the group with a tuft of bristles at the tips of their leaves. It was sent to Kew (where it flowered this June) from the Cape Town Botanic Gardens, but its precise habitat is unknown to me. The leaf surface, as seen under a lens, is extraordinary, and produces a feeling of surprise when first seen, the glittering papillæ which cover it being quite unlike those of any other species I have seen; their beauty must be seen to be understood, for they cannot be adequately described. As introduced, the plant is about 1 inch high, densely tufted, with densely-crowded leaves 2–6 lines long, $1\frac{1}{4}$ – $1\frac{1}{2}$ line thick. Under cultivation it has become 2–3 inches high, with stems $1\frac{1}{2}$ – $2\frac{1}{2}$ inches long, $1\frac{1}{2}$ –2 lines thick, having internodes $\frac{1}{4}$ – $\frac{3}{4}$ inch long, hispid with white hairs, which are spurred at the base. Leaves opposite, shortly connate at the base, often with small tufts of leaves in their axils, spreading, 6–13 lines long, 2–3 lines broad, $1\frac{1}{2}$ – $2\frac{1}{2}$ lines thick, sub-cylindric, flattened on the upper side, bright green, densely covered with somewhat glittering papillæ, which are subrhomboid, with a short acute point at each end, one point directed to the apex, the other to the base of the leaf, whose obtuse apex is tipped with a tuft of 12–14 (8–12 in the introduced plant), dark-brown rigid bristles, $\frac{1}{3}$ –1

line long, the outer of which are acutely spurred at the base. Flowers quite sessile between the terminal pair of leaves. Calyx 6-lobed; tube 2 lines long, $3\frac{1}{2}$ lines in diameter, very broadly obconic, shortly hispid with ascending spurred hairs; lobes unequal, erect; two about 7 lines long, the other four about 5 lines long, all resembling the leaves, slightly gibbous at the base, tipped with a tuft of brown bristles, the four shorter lobes having membranous margins. Corolla pure white; petals 10 lines long, $1\frac{1}{4}$ line broad, 2–3-seriate, rather lax, oblanceolate-linear, obtusely pointed, entire. Stamines $3\frac{1}{2}$ –4 lines long, filiform-subulate, very acute, erect, slightly spreading at the tips, about $1\frac{1}{2}$ line longer than the collected stamens, which they closely invest; staminal filaments white, with a tuft of hairs at their base; anthers yellow. N. E. Brown.

obtained for worse blotched *Odontoglossums* than "apiatum."

The *Odontoglossum*-houses have their occupants in splendid condition. Among the priceless blotched forms of *O. crispum* noted were *O. c. Baroness Schroder* and *O. c. Ballantinei*, two of the most beautiful; *O. c. Sanderianum*, *O. c. Princess Christian*, *O. c. Rex*, *O. c. Nobilior*, *O. c. Starlight*, *O. c. xanthotes*, and *O. c. grande maculatum*, all superb things which have received First-class Certificates, *O. Pescatorei* and *Veitchii* and some of the others having been in the collection over twenty years. Most of them have been illustrated in the *Gardeners' Chronicle*.

In the main *Odontoglossum*-house a few are still in bloom, including the singular-looking *Oncidium insculptum*. Planted beneath the staging, with other foliage plants, are numbers of Sanders' *Begonia Rex* varieties, and which have produced



FIG. 51.—*ANGRÆCUM ROTHSCILDIANUM*.

ORCHIDS AT THE DELL, EGHAM.

LIKE the sincere lover of plants that he is, Baron Sir H. Schroder still retains the keen interest in his famous collection of Orchids for which his garden is noted, and his interest in his plants individually is most pleasantly displayed when, for the information of the visitor, he points out some of the rarer specimens and relates interesting points in their history, or of peculiarities under cultivation. Thus we were introduced to the famous purple-blotched *Odontoglossum Pescatorei Schroderiana* and *O. Pescatorei Veitchiana*, both still far ahead of any of the numerous recent introductions, and both have been propagated, though very slowly, and do not now rely solely on the originals. Next came the extraordinary *O. crispum apiatum*, for which the Baron paid something less than £200 at Messrs. Protheroe & Morris' sale-rooms, and which was supposed to have been the record price. So wild was the purchase supposed to have been that the Baron excused his rashness on the plea that the plant had much taken his fancy. Since that thousands of pounds are asked and, it is said,

enormous leaves of the most beautiful and varied colours.

In the little warm-house adjoining, the Pitcher-plants suspended over the tank are in great beauty; the *Anthuriums*, *Vanda teres*, *Macodes petola*, and other occupants, also good.

The large *Cattleya* and *Lælia* house until recently had a fine display of large-flowered *Cattleyas*. At present the *C. Gaskelliana* form the chief in flower, a few hybrids being also in bloom, as well as the pretty, rare, and botanically interesting *Cattleya Schroderiana*, of which the one in flower now is of the original stock. The new *Cattleya* × *Shakespeare* (*Rex* × *granulosa Dubuyssoniana*) is a great beauty, the specimen having three spikes with thirteen flowers, the sepals and petals of which are cream-white, the front of the labellum purple. *Lælio-Cattleya* × *blechleyensis Illuminator* is a grandly coloured hybrid; *L.-C.* × *Queen Alexandrina*, and *Lælia* × *purpurato Digbyana* Edward VII., two fine things with which our readers will be conversant, as they formed the supplementary coloured illustrations of our issue of June 21, 1902; *L.-C.* ×

Bella, one of the earlier hybrids and still one of the best, and some others are also in bloom.

In the smaller cool-houses some of the *Odontoglossums* are in bloom. Also *Nanodes Medusæ*, *Ornithidium coccineum*, *Cochlioda vulcanica*, *C. Noezliana*, and a few brightly-coloured *Masdevallias*.

A warmer house has one side filled with *Miltonia vexillaria*, *M. v. superba* and others being in flower, as well as the rare and little-known, fragrant *Miltonia Schroderiana*, and a number of *Oncidiums*. Beyond is a house of *Cymbidiums*, in which also are several strong plants of the fine white *Mormodes luxatum eburneum*, and some other rare species.

A smaller *Cattleya*-house contains some of the finest forms of *Cattleyas*, including *C. Trianae* *Schroderiana*, *C. T. Russeliana*, *C. T. Osmani*, and other of the old favourites which have never yet been deposited. Also a collection of *Sophranitis* crosses, including the fine *Sophr. - Cattleya* *Queen-Empress*, *S.-C. x Calypso*, and *S.-C. x Batemaniana*, the last-named being the plant which received a First-class Certificate in 1887.

The large warm-house, in the centre of which specimens of *Anthuriums*, *Alocasias*, &c., are arranged, has the warm-house *Cypripediums* on the side stages, and rare *Dendrobiums*, &c., suspended from the roof. Among the former in flower are three noble specimens of *Cypripedium* *x Lord Derby*, *C. x Massaianum*, and some other showy hybrids. Others remarkable for their vigour and beauty of foliage were *C. Stonei platytanum*, *C. x Antigone*, *C. x Jas. H. Veitch*, and *C. x Baron Schroder*. *Dendrobium* *x Rhodostoma*, as usual, bears its white and claret flowers; *D. superbum Dearei*, *D. s. Burkei*, and *D. s. Huttoni*, the albinos of the species commonly known in gardens as *D. macrophyllum*, are in fine health; the fine forms of *Cattleya Lawrenceana*, including *C. L. Hyeana*, *C. L. Vinckei*, and *C. L. concolor*, all thriving; and among the most interesting subjects the original plant, now divided into two, of that singular cross between *C. citrina* and *C. intermedia*, known as *C. x Lamberhurst* hybrid, and which obtained a First-class Certificate in 1888. Like many other wide crosses it is stubborn at times, but Mr. Ballantine, the gardener at The Dell, and his able assistant, Mr. Clarke, have hitherto been able to tide it over the periodical fits of waywardness, as they have done with many other refractories. In this warm-house the suspended baskets of the pale-blue *Utricularia Endresi*, and the white and yellow *U. montana* give a profusion of flowers which arrange well with the Orchids.

The *Phalanopsis*, which in time past have given much trouble at The Dell, seem to have at last settled down comfortably, and have made promising growths. The *Vandas* and *Aerides* houses have their occupants in satisfactory condition, among the good specimens of the former being *V. insignis Schroderiana*, the unique albino; and *V. Dearei*, also confined to The Dell collection; and among the latter the pure white *Aerides Fieldingii album* (*A. Williamsii*).

The deciduous *Dendrobiums* and hybrids are suspended from the roof of a large span-roofed warm-house, the central bed of which is filled with beautiful-leafed *Caladiums*. Round the sides are the *Calanthes*, the noble hybrid *C. x Baron Schroder*, raised at The Dell, being by far the finest, and also a remarkably strong grower.

One house, in which the small decorative plants of *Codiceums* and other "table plants" are excellently well grown, has a fine batch of *Dendrobium formosum giganteum* suspended in it. Another house has a fine collection of *Gladioli*, a bright dark-blue one being very effective. A cold-house has a fine display of *Lilies* and *Crasulas*, and throughout all the numerous others, in

which are fruits and flowers, the utmost neatness and order prevail.

OUT-OF-DOORS.

In a long range of frames the large number of scarlet *Nerine Fothergilli major* are showing flower, and in the beds and borders *Gladioli*, *Phloxes*, and other showy perennials and herbaceous and Alpine plants make a fine and varied display. The many fine trees and Conifers with which the grounds are so skilfully planted seem to be all the better for the wet and rather cool summer, about which so many gardeners complain.

ORCHID NOTES AND GLEANINGS.

LÆLIO - CATTLEYA x NOEL (L. - C. x SCHILLERIANA x STELZNERIANA x C. GRANULOSA SCHOFIELDIANA).

THIS pretty hybrid, raised by Mr. Thos. Stafford, gr. to Fred Hardy Esq., Tyntesfield, Ashton-on-Mersey, is now flowering in the gardens there, and, as is the case with most of the *C. granulosa* crosses, the features of the plant and flowers partake most nearly of that species, the labellum, with its deeply-cleft, elongated side lobes and roundish, fringed-edged front lobe extended on a narrow isthmus, being especially suggestive of *C. granulosa*. The flower is nearly 6 inches across. Sepals and petals creamy-white, with an obscure tracery of lilac. Lip bright violet-purple, the base showing the white-ground colour between the veining, and the front lobe a narrow lavender-coloured margin.

ODONTOGLOSSUM CRISPUM AT TWICKENHAM.

THIS season the quantities of *Odontoglossum crispum* imported seem to indicate that it may be a rival of *Lilium auratum*, astonishing quantities of which are imported and sold every year. In Mr. H. A. Tracy's nursery, Amyand Park Road, Twickenham, a goodly number of established plants of *O. crispum* are in flower, most of them consisting of the good round-flowered type, and some few of the favourite spotted class. A large consignment of fresh imported *O. crispum* from the Pachó district has also recently arrived.

In the Orchid houses both hybrids and species are well represented, in bloom being five very fine forms of *Lælio-Cattleya* *x elegans*, a very handsome *L.-C. x Atalanta*, good *L.-C. x Schilleriana*, &c. Among the *Cattleyas* in flower is a good selection of *C. Gaskelliana* and a few *C. Trianae* of a fine type flowering out of season from a fresh importation. *Cypripedium* *x Thyades* (*superbiens x Chamberlainianum*) and many other hybrid *Cypripediums* are also in bloom.

ALPINE GARDEN.

SCHIZOCODON SOLDANELLOIDES.

THIS pleasing Alpine Japanese plant has been imported in numbers quite disproportionate to the measure of success—or rather failure—which has attended its cultivation in this country. It does not appear to travel well, and many of the imported plants soon succumb after arrival, even if they look promising when first planted. This is unfortunate, as there is a charm about this plant, with its deep, almost chocolate-coloured leaves, which assume different hues, however, at various seasons. This charm is heightened when the delicate, small, fringed pink flowers rise above its foliage in spring. The whole plant is very dwarf, and it is thus one of the plants which delight even the most fastidious lover of Alpine flowers, and deserves every effort to induce it to flourish. One ought not, therefore, to feel disheartened or discouraged if the first, second, or even third attempt to grow it results in failure. My own first plant, care-

fully tended as it was, had lingered long ere it succumbed, and it was not until I had seen it established and happy-looking in the garden of the late Mr. George F. Wilson at Oakwood that one realised its beauty and the best kinds of conditions for its cultivation. At Oakwood it was partially, almost entirely indeed, shaded by shrubs and grew in a peaty soil.

Every garden has not the conditions that were afforded at Oakwood; but after some experiments success was attained here in a simple way. A spot was chosen on an upper terrace of a rockery, where it is shaded and sheltered from the west and north-west by a bush of *Berberis buxifolia nana*, in such a way that, with the shade of other shrubs and plants at the top of the rockery, the *Schizocodon* receives practically only a little sun in the morning. The exact exposure may be said to be north-east, but it is sheltered by other rockeries from cutting winds. For the purpose of suiting its requirements a compost was made up consisting of about equal parts of gritty sea-sand, which had been well washed by rains, and a material I use instead of turfy-peat, which is washed up occasionally by the sea and which apparently consists of the fibrous matter from peat-bogs, decayed leaves, and small pieces of sea-weed, all reduced to small particles. This makes a good material for use in many ways in the garden, as it practically serves for peat, and can be used in a similar way to Cocoa-fibre for most of the purposes to which that useful substance is applied. The sand and this were mixed together, the plant turned out of its pot, the whole made as firm as the material would allow, and a generous application of water completed the process. For a few days a flower-pot was placed over the plant, and only removed in rainy weather, until the plant seemed reconciled to its new quarters, when the pot was removed. Since then all that it has received have been occasional top-dressings with the same material and frequent liberal supplies of water during the summer, so that the soil never becomes dry. Thus treated it has grown well and has flowered for three or four seasons. These details may seem rather prolix, but the *Schizocodon* is one of the plants which requires and deserves the best care of the cultivator. Further experiments have convinced me that those who have not such material as I have can grow it successfully in turfy peat broken small, decayed leaf-soil, and sand, in about equal proportions, while the addition of a little cocoa-fibre will be found useful, though not absolutely necessary. *S. Arnott, Carsethorn-by-Dumfries, N.B.*

PHYLLOCACTUS STRICTUS, LEM.

THIS species is certainly not very pretty, but it is a rather rare plant, and as one of the night-flowering Cacti, well deserves the attention of all lovers of Succulents. Two years ago I brought a little piece of it from a garden in the South of France, where the plant was cultivated without a name, and had never flowered. It is remarkable for the horny borders along the linear-lanceolate and crenate branches, which are only found in a few *Phyllocacti*. This year I had the pleasure to see its flower. The bud was extremely slender and of a very curious aspect. It continued to grow to a length of 9 inches, not being thicker than about 2—3 lines in the centre; the sepals were short and not numerous. The flower only opened late at night, and had faded by the next morning. The sepals were recurved, brownish-white, and the petals pure white. The whole flower had a diameter of little more than 3 inches. The style is longer than the radiating stamina, rose-coloured above, with 10—12 yellowish-white stigmata. *Phyllocactus strictus* is said by Lemaire, the author of the species, to be a native of Cuba. *Alwyn Berger, La Mortola.*

CALOCHORTUS PULCHELLUS,

DOUGLAS.

We are glad to have the opportunity, thanks to the courtesy of Messrs. Wallace, of illustrating a plant which was exhibited by them at a recent meeting of the Royal Horticultural Society (see fig. 52). In the opinion of Mr. Carl Purdy, whose experience entitles him to the greatest consideration, the plant known in gardens as *C. pulchellus*, and figured under that name in the *Botanical Magazine*, t. 6527, and in the *Botanical Register*, 1662, has no right to that appellation, but should be called *C. amabilis*, Purdy. The true *C. pulchellus*, according to Purdy, as here figured, is of more robust habit, with larger flowers and a different shade of yellow.

In the first number of *Flora and Silva*, p. 24, Mr. Carl Purdy says of this species: "The true *pulchellus* was one of the first discovered, as it was collected by Douglas, sent to England, and described and figured in 1835. Later it was lost sight of, and its very name appropriated by *C. amabilis*. It has been reintroduced during the last few years as *C. pulchellus*, Douglas, from Mount Diablo, California. The flowers are the largest of any of the Globe Tulips, and finely globular. The petals are exquisitely fringed with short, stiff hairs."

Mr. Purdy has overlooked the figure of *Cyclobothra pulchella* given in the *Gardeners' Chronicle*, June 16, 1883, p. 765, fig. 127, from a drawing by Mr. Worthington Smith. This affords an illustration of the inconvenience that arises from the multiplication of synonyms. Not finding the plant mentioned in our columns under the head of *Calochortus*, we not unnaturally thought that Messrs. Wallace's plant had not been figured; but a comparison of the figure published in 1883 with that now issued will show that they represent the same species. We may add that Mr. Worthington Smith, at p. 768 of the volume for 1883, gives an interesting account of the way in which large insects are precluded from entering the pouches on the petals, whilst the smaller ones enter and cannot escape.

"*C. amabilis*," continues Mr. Purdy, "was until this year known as *C. pulchellus*. It differs in having much smaller flowers of quite another shape, and a much deeper yellow." Probably by inadvertence, and in spite of his expressed opinion to the contrary, Mr. Purdy, in his monograph in the *Proceedings of the California Academy*, includes the names of Bentham's plant and of that figured by Lindley as synonymous with his *Calochortus pulchellus*, when, properly speaking, those names should have been transferred to his *Calochortus amabilis*.

Mr. Purdy does not give the reference to the original description by Mr. Bentham, which we now supply: *Cyclobothra pulchella*, Bentham, in *Trans. Hort. Soc. London*, n.s., vol. i., p. 412, t. 14, f. 1. Bentham, it will be there seen, quoted Douglas's MSS. name of *Calochortus pulchellus*, but preferred to class the plant under *Cyclobothra*. Nowadays, the two genera are considered to "slide into" one another, and our present plant is accordingly placed under *Calochortus*.

But these permutations of nomenclature, tiresome as they are, are not the only difficulties to be contended with; there are other perplexities to be unravelled. In order to clear them up so far as we could, we compared Douglas's original specimens in the Kew herbarium with Messrs. Wallace's plant and with the three coloured plates above referred to. Now surely, we thought, we shall be going back to first principles and be able to settle the matter at once. But we had not gone far in our task before we found it necessary to formulate an opinion as to what were first principles! We do not know whether Mr. Purdy has ever seen

Douglas's specimens. If he has, or if anyone else for that matter has done so, the opinion arrived at may, it is possible, be different from our own. This difference arises from the doubt that may be entertained as to whether we should take Douglas's actual specimens as the starting-point,

or whether, as Douglas himself never published a description of his plant, the manuscript name he applied provisionally should be accepted or treated as a *nomen nudum*, as botanists say. That matter could easily be settled as we thought; we had but to take into consideration the figures

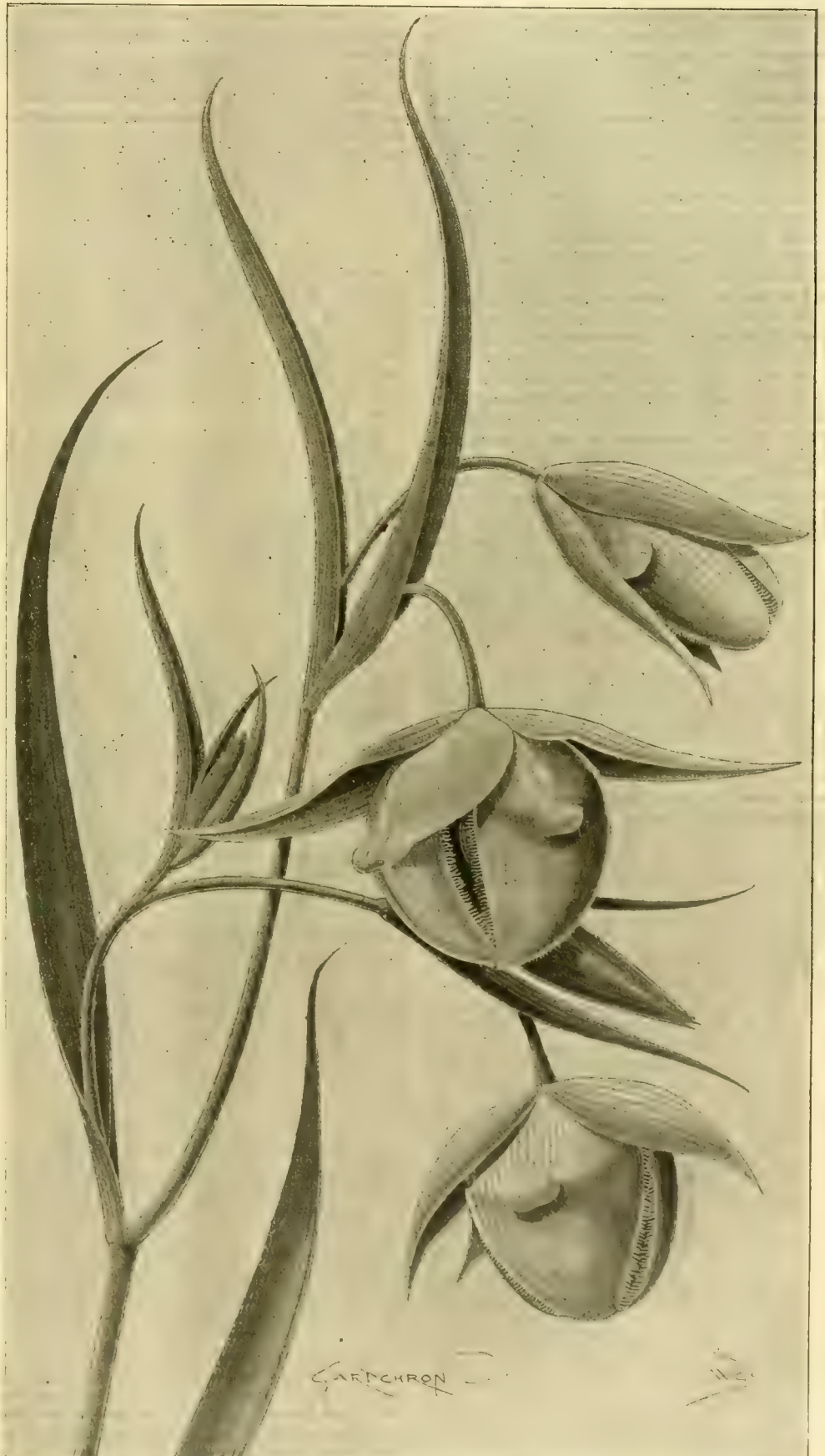


FIG. 52.—CALOCHORTUS PULCHELLUS.

and descriptions published first by Bentham, then by Dr. (afterwards Sir William) Hooker, and then by Lindley. Well, let us see how that works out.

In the first place, there are Douglas's specimens in the Kew herbarium—unsatisfactory ones, it must be added. We do not know the date or the exact locality where these were collected. In any case they belong, in our opinion, to the large-flowered form, such as that lately shown by Messrs. Wallace, and figured by us in the *Gardeners' Chronicle*, 1883, fig. 127, p. 768.

Secondly, we have the coloured figure and description given by Bentham of *Cyclobothra pulchella* in the *Transactions of the Horticultural Society*, published in 1835, with the information that it represents "*Calochortus pulchellus*, Douglas MSS." On comparing this figure with Douglas's specimens it is at once seen that the figure does not represent the same species as the actual specimens. The illustration represents more nearly the smaller-flowered species which till lately we have been accustomed to call *pulchellus*, and which is now referred to *C. amabilis*, Purdy.

The same remark applies to the plates subsequently published by Hooker and by Lindley.

How are we to reconcile the discrepancy? As a means of doing so we suggest that Douglas's herbarium specimens may antedate by some years the plants raised at Chiswick. Bentham, in his paper in the *Transactions of the Horticultural Society*, read on January 21, 1834, expressly says: "Report on some of the more remarkable hardy ornamental plants raised in the Horticultural Society's garden from seeds received from Mr. David Douglas in the years 1831, 1832, and 1833."

Bentham's description and figure therefore were taken from a cultivated plant, and so were those of Hooker and Lindley. That being so, then either the seeds must have been grown under a wrong name, or the plant is very variable.

The latter alternative is, of course, quite possible; but having seen the two cultivated plants in a living state, as well as dried and figured, we can but come to the conclusion, as a matter of opinion, that the two plants do actually represent two distinct species. As Purdy is the latest monographer of the genus and well acquainted with the species both in a wild and in a cultivated state, we of course accept his decision on that point. Then arises the nomenclature difficulty before referred to. We propose to meet that by following the Kew usage, and adopting the name given by him who has put the plant in the right genus.

Worked out on this basis, the nomenclature and synonymy come out as follows:—

CALOCHORTUS PULCHELLUS, Douglas MSS. and in the Kew herbarium. Wood, *Proceedings Philadelphia Academy* (1868), p. 168 excl. syn.; Baker, *Journal Linnean Society* (1875), p. 303, excl. syn.; Watson, in *Botany of California*, ii. (1880), p. 172; Jepson, *Flora of Western Middle California* (1901), p. 113; Purdy, in *Proceedings California Academy of Science* (1901), p. 118; *Garden and in Flora and Silva*, i. (1903), excl. syn.

SYNONYM. — *Cyclobothra pulchella*, *Gardeners' Chronicle*, 1883, p. 768, fig. 127.

CALOCHORTUS AMABILIS, Purdy, in *Proceedings of California Academy of Science* (1901), p. 118.

SYNONYMS. — *Cyclobothra pulchella*, Bentham, *supra cit.*; Hook in *Botanical Magazine*, 6527; Lindley, *Botanical Register*, 1662.

Calochortus pulchellus, var. *amabilis*, Jepson, *Flora of Western Middle California* (1901), p. 113.

? *Calochortus pulchellus*, var. *B. parviflorus*, *Garten Flora*.

All this detail will be as irksome to the reader as it was troublesome to us to unravel. It is of more consequence to the grower to know that the larger form (*C. pulchellus*) is better worth cultivating than the smaller one now called *amabilis*, although the connoisseur will not willingly be without the two. In addition to differences in size, habit, number, and colour of flowers, the form of the sepals is usually different, being much more gradually tapering in the true *pulchella* than in *amabilis*. The presence or absence of fine threads or hairs on the inner surface of the petals, which has been relied on as a distinguishing character, we find to be untrustworthy. Hairs are found sometimes, whilst at others they are absent from flowers of the same species. *M. T. M.*

THE ROSARY.

ROSE ZEPHYRINE DRUOT.

A CONTRIBUTION to the history of this Rose is given in our last issue, p. 122, as a supplement to what had been previously recorded. We have still, however, to learn the original source of the Rose, and still to know how to spell its name, for each of our correspondents spells it differently, and we can find no authoritative standard to which to refer it.

It is to the late Mr. Selfe Leonard, as it appears, that we are indebted for the introduction of this very desirable Rose. It is not an exhibition Rose, but as a garden or a pillar Rose it has many excellent qualities. It is thornless, it flowers throughout the summer, it is a free bloomer, of a rich rose colour, and deliciously fragrant. The young wood is green and shining, devoid of prickles or hairs. The stipules are adnate for three-fourths of their length, the free portions are linear-lanceolate, with stalked, glandular hairs. The rachis or midrib is slender, deep red, with a very few small scattered prickles, intermixed with a small number of glandular hairs. The leaflets are in one or two pairs, with a solitary terminal leaflet larger than the rest; all are glabrous on both surfaces, oblong-lanceolate, rounded at the base, serrated, deep green above, paler beneath. The buds are conical, receptacle top-shaped, glabrous; sepals oblong-lanceolate, slightly hairy, especially on the inner surface, inner ones entire, outer slightly lacinate, all ultimately reflexed; expanded flower nearly 3 inches across, petals roundish, obovate, recurved at the margins, yellowish at the extreme base, elsewhere deep rose-pink; styles free, carpels very hairy.

We feel that an apology is due for introducing such technical details when in presence of so lovely a Rose, but as it is desirable to be able to recognise it and distinguish it from others, we hope rosarians will not judge us harshly, but in any case feel gratified that their attention has been drawn to so beautiful a flower.

THE THORNLESS ROSE.

There is a Rose here which for years has been pointed out to visitors as "the Rose without a thorn." It is growing as a bush, and has been in the garden for about forty years so far as I can tell. Its thornless nature is not absolute, for though the slender stems are as a rule destitute of thorns, at any rate of strong ones, the leaves constantly bear a few small prickles on the lower side of the midrib (rachis). Suckers and strong shoots often have stiff spines. The calyx, receptacle, and stalk below are thickly covered with glandular hairs or bristles, some of which may even be spinous. Thus, though the thornless character is not invariable, yet the bush can usually be handled with impunity. The flowers are small, slightly scented, and pink in colour with occasional streaks or splashes of a deeper shade; they are pretty in the bud stage. The Rose

is in bloom now, but would no doubt have been so earlier if the season had been more favourable; besides it is growing in a rather sunless aspect. Then vegetation generally is a week or two later here in the north than in the south of England.

This note is sent with the thought that this variety may be the "Thornless Zephyrin Drouhin," shortly described by Mr. W. C. Leach in your issues of July 25, p. 56, and August 3, p. 103. Enclosed along with it are examples of the flower as well as some of the foliage and pieces of the stem [quite different.] *J. P. Blaitwaite, Carlisle, August 12.*

[The rose sent is a double-flowered form of *Rosa carolina*, or some very closely allied species. It is a native of the middle and eastern states of N. America, and is very variable. Ed.]

ROSE FRAU KARL DRUSCHKE.

M. Paul Lorenz, writing in the *Deutsche Gärtner Zeitung*, protests against the name of this Rose, which, according to him, should be called "Schneekonigin" (Snow Queen), which name has prior rights. The Rose was raised by Peter Lambert, and under whatever name it be known, it is one of the fairest of the fair.

CHINA ROSES, LATE ROSES, &c.

Admirers of China Roses, properly known as *Rosa indica*, of which so many of the common Monthly and a variety known as *Hermosa* have been planted in recent years, would do well to plant *Madame Eugene Resal*, a distinct and beautiful variety, eminently pleasing to those who care for Roses apart from their merits as objects for exhibition. It is quite probable that some hardened exhibitors would regard this variety with indifference. Still, it is a pretty flower, with its combined shades of coppery-red and yellow. Moreover, the plant is free-blooming and a vigorous grower.

Advice is frequently given to intending planters to place their Roses in beds or blocks in separate varieties; and very good advice it is, especially when a large number can thus be massed. I recently saw a departure from this method, which, as a contrast, was very effective. A number of plants of that lovely H.T. *Caroline Testout* had been planted and mingled with a like number of the crimson H.P. *Victor Hugo*, and as both varieties had prospered, it was difficult to know which was most deserving of admiration; in any case, the effect produced was very fine during the period when the blooms were at their best.

Viscountess Folkestone stands charged of being a rose that opens quickly and is soon over. There is some truth in this; but what a fine late-flowering variety it is! True, the autumnal rains and winds soon tear its large thin petals to pieces, but where soil and situation are suitable it blooms for a considerable length of time, and there is always the possibility of obtaining a few good flowers. The climbing *Noisette Alister Stella Gray* once made a bold bid for popularity, but it is by no means a general favourite. Yet the yellow flowers, though small, are very pretty and fragrant. Of this variety I have been able to gather many late clusters in former years.

Those who have not grown *Madame Isaac Periere* can scarcely be aware what a fine late-blooming sort is this, rivalling even the old *Gloire de Dijon* in this respect, its bright red flowers being produced right into November, and, in fact, until frost cuts short their career. The plant is vigorous, and useful for covering pillars and arches. I might mention many others that usually provide autumn flowers in plenty where they thrive: *Anna Olivier*, *Souvenir de S. A. Prince* (usually rather thin at the end of the season), *Marie Van Houtte*, *Mme. Lambert* (the colour of this is much poorer in autumn), and many more, but will desist.

The Rose of the year has with us been without question *La France*. We have many bushes, and some standards, and on both the blooms have been splendid and also numerous. In the wettest portion of the season some of the flowers were rendered worthless, but I have seldom seen *La France* in such grand condition. J. W.

ROSES IN JAMAICA.

Mr. H. Cousins says, in the *Journal of the Jamaica Agricultural Society*, that Hybrid Perpetuals are not worth growing in Jamaica, the results not being adequate to the trouble taken. Crimson Rambler, also, will not flower. Tea Roses and Hybrid Teas as a rule do well. The best seven are White Cochet, Pink Cochet, Kaiserin Augusta Victoria, Baldwin, Yellow Cochet, Etoile de Lyon, and *La France*. Mr. Cousins is alluding to Roses growing in a tropical climate at a low elevation. Probably on the Blue Mountains the result would be different.

ROSES WHICH FLOWER WELL IN THE AUTUMN.

Amongst autumnal Roses the following are just now specially good—W. J. Grant, Kaiserin Augusta Victoria, Lady Mary Fitzwilliam, and Caroline Testout; the polyantha Roses, crimson and other ramblers, are now at their best, including Euphrosyne and Hélène, pink; Aglaia, yellow; and Thalia, white; all of which are free and vigorous, and suitable for forming festoons, covering pillars and trellises. *Rosa rugosa* and its varieties are distinct and effective as much for their flowers and foliage as for their bright-coloured haws. Budded stocks which may have missed to take may now be rebudded, and be more likely to succeed than earlier, owing to the abundant sap-flow since the rains. The present is a good time for striking Rose cuttings, well ripened twiggy unflowered growths being selected for making them, these being taken off with a heel and pricked into pots filled with sandy loam, having a layer of clean sharp sand on the top. Keep close under hand-lights or cloches. The best place for them is a shady position facing north. In about a month the cuttings will be rooted and have begun to grow, when air should be gradually afforded as the weather permits. They will be best left undisturbed in the cutting-beds till late in the spring, when they may be potted, keeping them close till re-established. The cuttings will require protection in severe weather. J. D. G.

SEASIDE GARDENING.

(Concluded from p. 129.)

ON narrow grass-slopes, the neat but monotonous carpet-bedding is permissible, but it finds favour with but few now. If adopting it, use the rosette-formed Succulents in preference to *Alternanthera* of sorts, and never venture to plant out the last named till the end of June, when they have been gradually hardened off. Avoid carpet-patterns, and above all things inscriptions, which are in very dubious taste. The best Succulents are *Sempervivum calcaureum*, *Kleinia repens*, *Pachyphytum Browni*, *Sedum acre aureum*, *Sedum lydium* and *S. spectabile*. *Echeveria* furnishes also a very wide choice of suitable subjects; from the noble *E. metallica*, to the minute *E. secunda glauca*, and the mealy-leaved and distinct *E. pulvurelenta*, all will be found most useful, indeed indispensable.

Antirrhinums, once classed as florists' flowers, and named, have now passed from that mild tyranny, and are raised from seed almost exclusively. The Tom Thumb section originated on the Continent, and among these may now be found a large choice of dwarf and sturdy sorts, from 6 to 15 inches in height, admirably adapted for seaside bedding. These may be sown in the open borders late in August, transplanted, and finally placed in their permanent quarters in

early spring, when they will continue to grow and flower all the summer—indeed, right up to the first sharp frost. It greatly helps them if the spent flower-spikes bearing their seed vessels are removed as they form. Dwarf Antirrhinums may be had in separate and distinct colours, but are more effectual when used mixed. If raised as directed, the habit will be shown before the final planting out, so that the tallest may be chosen for the centres of the beds, and the dwarfer ones for the margins. Naturally the Antirrhinum is biennial, but if sown early in gentle heat, and planted out in May, it is practically an annual. Among really distinct and striking novelties in this flower are Brilliant, an almost scarlet form; and a pure white, called Queen Victoria, both of which come true from carefully-saved seed. The foliage of the last-named is small and abundant.

Some of the dwarf annual Toad-Flaxes (*Linaria*) may be used to edge the beds of their near relatives, notably *Linaria splendens* (purple), and the neat *L. bipartita aurea*. The very pretty variegated form of the Wall Toad-Flax (*L. cymbalaria*) is very elegant, but is only to be relied on in a few dry soils and in exceptional seasons. The same may be said of the pretty variegated form of the Ground Ivy (*Glechoma*). My theory is that by persistent coddling the plants are weakened, or it may be the absence of chlorophyll in their leaf-cells (variegation) that makes them weak.

Without exception, the Mesembryanthemum tribe is happy at the seaside, many kinds being hardy in the S. and S.W., therefore use these neat plants freely—*M. cordifolium* and its variegated kind, *M. roseum*, and its white sport, called in the trade *argenteum*; while on sandy slopes the lovely pulchellum opens its pink stars to welcome the morning sun; and a large yellow-flowered kind which I am unable to identify. It has large, succulent, triangular leaves, makes a noble bed, and may be edged with *M. cordifolium*. The annual, *M. tricolor*, sown early in heat and planted out in May, will continue in flower a long time, especially if its small, Fig-like fruits be constantly removed as formed. An allied plant, *Othonna crassifolia*, is one of the best plants for planting in small vases or on the verges of steep slopes, and where it thrives gives an endless succession of golden star-like flowers. The brilliant Portulaccas occur to one's memory here. These may be sown in pans and transplanted to a sunny sandy bank in April or early in May; or better, they may be sown broadcast in the open-air. This plant is neat and procumbent, and the blooms among the most brilliant of their class. *P. Thellusoni* and *P. Thorburni* are yet the two finest, and all are good; while the single are much preferable. To get the maximum of flower the soil should not be too rich, and very sandy. So used, nothing can exceed the brilliancy of this flower when at its best.

Another flower that is most reliable for continuous blooming is *Phlox Drummondii*. Choose the old kind, not *grandiflora*; and for small beds a German selection called *Haynaldi* and *Haynaldi cardinalis* are dwarf and compact, and the flowers almost metallic in their brilliancy.

The Dianthus or Indian Pink tribe, the Japanese forms of which are called *Heddewigii*, after a German explorer, may be here mentioned. These in size are very noble, also rich in colour; they may be raised in gentle heat, gradually hardened off, and transplanted in April or May. The single form is far the best for effect, and the smooth-edged preferable to the deeply-fringed section known as *laciniata*.

Begonias, once the fashion, are seldom of much service except in exceptional seasons, being much too brittle to withstand even the ordinary sea breezes. Exceptions to this are the small-flowered group, *semperflorens*, represented by

S. vera and its white form; while the free-blooming *B. Davidiana* is to be recommended for its dark, metallic foliage and great freedom of flowering, but it should have a good sheltered position. Let it have the centre of the beds, and be edged with any of the dwarf and sturdy varieties of *B. semperflorens*.

Annual Chrysanthemums, now so varied and greatly improved, may be used freely; but the choice should rest with the rigid-growing section known as *C. carinatum*, with moderate-sized flat flowers and finely-cut elegant foliage. The wild Corn Marigold, *C. segetum* is quite at home by the sea-shore, and has now some very fine hybrid forms, as *grandiflorum*, &c.; and for those who prefer double flowers, the compact flowering kinds may be chosen, as they are well coloured and free-blooming in ordinary seasons.

The only Dahlias suitable are the very dwarf single ones, known as Tom Thumb; these range from 6 inches to 1 foot in height, and are free and continuous in their flower production. The range of colour in these is extensive, from pure white in Snowflake, to dark maroon and crimson in Venus and Bo-Peep.

Of Fuchsias the hardy kinds have already been noticed in these columns, and the rest are, with the exception of the variegated and highly coloured-leaved section, embracing Burning-bush, Sunray, &c., which should be pegged down, of not much value in seaside beds.

Petunias may be used, preference being given to the free-blooming and small-flowered section known as the dwarf striped French. For a fragrant bed use the white species known as *nyctaginiiflora*, the fragrance of which resembles that of its near relative *Nicotiana affinis*, and, like it, it is hardy in the South, young seedling plants surviving the winter, and flowering early in the summer.

The double Petunias make excellent beds, being compact in habit and very floriferous. The named kinds are best, as they may be depended upon for colour and also for height, two essentials in successful bedding. The single strain known as *compacta multiflora* in Germany, will be found admirably suited to our purpose, as it is dwarf, very much branched, and certainly many flowered. A selection I have seen in Norfolk called White Queen is undoubtedly by far the best white for small beds. It is to be regretted that there are not more among the coloured section like this in habit.

A good plant to edge beds of Petunia is *Cineraria maritima*, and to keep this white, bed it out in pots to check vigour; nor must the silvery *Centaurea ragusina* and *candidissima*, be forgotten; and these plants are very happy even if within the salt spray.

REMARKS ON THE CONDITIONS OF THE FRUIT CROPS.

(See Tables, ante, pp. 72—77.)

(Continued from p. 113.)

SOUTHERN COUNTIES.

BERKSHIRE.—The fruit crops in this neighbourhood are the worst in my recollection. Apples and Pears are almost a complete failure, and the stone fruits are nearly as bad. A few varieties of Apples showed good promise, but were cut off by the frost. Pears, Plums, Peaches, and Cherries showed well, but dropped off after the fruit was formed. Strawberries were a good crop, but the season was very late and the fruits were soon over. Other small fruits were of fair average and quality. J. Howard, Benham Park Gardens.

— The fruit crops, including Apples, Pears, Plums, Cherries, Peaches, Apricots, small fruits and Strawberries, up to the end of March, were very promising, in fact, much above the general average here. But the month of April, during which we

registered over 100° of frost, left us without any of the above-named, with the exception of small fruits and Strawberries, which were much below the average. *W. Fyfe, Lockinge, Wantage.*

— The severe frosts of April 15, 16, 17, 18, and 19, completely destroyed all Apples, Pears, and Plums. Red Currants, Gooseberries, and Strawberries escaped, and are carrying a very fair crop of fruits. *Jas. Coombes, Englefield Gardens.*

DORSET.—I have to record the worst fruit season I have known for the past twenty-five years. As regards Apples, Pears, Plums, and Cherries, there are practically none worth speaking of. Of small fruits, Strawberries have been very good, Gooseberries very fair, Raspberries and all kinds of Currants very moderate, and on the small side. The frosts of April 12 to 25 are undoubtedly the cause, as then we registered from 7° up to 15° on two nights, on the 17th and 18th, which was most disastrous to all fruit crops. *Thos. Denny, Down House Gardens, Blandford.*

— The fruit crop in this district is about the worst on record. All promised well in early spring, but severe frost and damp biting winds about the end of April destroyed blossom and young fruit wholesale. Pears and Plums are a complete failure; Apples about quarter of an average crop; dessert Cherries, none; Morellos, half a crop; Peaches and Nectarines a failure; Apricots—the best crop we have on walls, but under average; Gooseberries and Raspberries very good; Currants, thin; late Strawberries, good, early varieties spoilt with cold rains. *Ben Campbell, Kingston House Gardens, Dorchester.*

— All round the fruit crop is the worst known for many years. Not only is our general collection of Apples almost a failure, but the hardy cider kinds are equally deficient. The frosts experienced during the second and third weeks in April, which killed the Pear, Plum, and Cherry bloom, are not accountable for the failure of the Apple crop, but rather the wet and sunless season of 1902, for where the trees blossomed well there was a conspicuous want of vigour in the bloom. Pears are a total failure on bush and pyramid trees, and only on south aspects is there any fruit on wall-trees; and here the crop is not only a scanty one, but up to the present it is poor in quality, and no amount of attention in the way of root-waterings, &c., will induce them to grow; the trees also are covered with honeydew, and looking most miserable. The remarks with regard to Pears applies exactly to the Plum crop. Sweet Cherries have been good on west walls, but Morellos are a very scanty crop indeed. Apricots also are a very scanty crop, and the same remark applies to Peaches and Nectarines, and the trees of the latter suffered badly also from the late frosts. Strawberries have been abundant and good, as also are Gooseberries and Red Currants. Black Currants are very scarce, and have realised just treble the price got for them in former years. Except in sheltered gardens, the Raspberry-crop is much under the average, the bearing canes having been hard hit by the frosts in April; and the young canes were killed to the ground-level, but are now making satisfactory growth. Cob, Filbert, and Walnuts are exceedingly thin on the bushes and trees. *T. Turton, Castle Gardens, Sherborne.*

— Fruits promised favourably, but were punished severely by late spring frosts of unusual severity. Pears turned black and fell in quantity from the trees. Gooseberries yielded a tremendous crop, and bush fruit is generally good; being rather thickly together, they formed their own protection to a great extent, and did not suffer as standard fruits did. *J. Benbow, Abbotsbury Castle Gardens, Dorchester.*

HANTS.—The fruit crops in this district are very poor. Strawberries were fair, also Gooseberries and Raspberries. No Apples, Pears, Plums, or Damsons. Peaches and Nectarines are thin, but will be good. The late frosts and cold weather we experienced are the causes of failure. *Arthur Lee, Palace House Gardens, Beaulieu, Brockenhurst.*

— Strawberries in this district have been, as they always are, a good crop, in spite of the adverse weather at the time and previous to flowering. Sir Joseph Paxton, as usual, is still the best variety for market purposes. Royal Sovereign and Leader are making headway as early varieties; neither, however, travel so well as the first-named "Joe's." Apples, Pears, and Plums are the worst crop known for years. The trees, however, are full of promise for next season. *Ed. Molyneux, Swanmore Park, Bishop's Waltham.*

— The appearance of all fruit-trees early in the season gave promise of a bountiful crop, but our hopes were blighted by the severe frosts in April (11th to 24th, when we registered 113 during that period). Apples are poor indeed, Pears worse. Plums very thin, as the trees were covered with a mantle of snow at blooming time. Strawberries have been very good indeed, with us the crop of the year. Currants very good, especially red varieties. Gooseberries fair average crop, Raspberries poor, Peaches and Nectarines scarcely any outside, but in unheated cases we have abundance. Nuts thin, Walnuts none. *A. G. Nichols, Strathfieldsaye Gardens, Mortimer, R.S.O.*

— The fruit crops in this district are the worst that have ever been known. Very few Apples: the best are Lord Grosvenor, Lord Suffield, Lord Derby, and Irish Peach. Plums—some of the varieties have a fair crop, Rivers' Prolific, The Czar, Prince Englebert, and Victoria, are the best. Pears are the worst of wall fruits. Peaches very few and trees badly blistered. All small fruits are under average, except Strawberries, which are good. *J. Bowerman, Hackwood Park, Basingstoke.*

— In this locality Apples, Pears, and Plums are a complete failure. There are whole orchards without any fruit on the trees, and the trees themselves have suffered very badly. Peaches, Nectarines, and Apricots are also a failure. We grow a great many outdoor Peaches and Nectarines here; this year we have not two dozen fruits on all our trees. Strawberries, Gooseberries, and Currants are with us an average crop. *Thos. Leith, Beurepaire Park Gardens, Basingstoke.*

(To be continued.)

The Week's Work.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Dendrobium Phalaenopsis Schroderiana.—For flowering during the autumn months, there is no more beautiful Orchid than the one whose name is at the head of this note. It is better when grown by itself, where it may have abundant air and sunshine afforded. The smoky air of large towns is inimical to its well-being, especially when the flowers appear late, as many of them then drop off in foggy weather. The flowering of the plant, even in rural districts, owing to the lack of sunshine, is likely to be noticeable this year. Our plants which have made the best pseudo-bulbs are those which were potted last year in a leaf-mould compost, and not disturbed this season, some of these having doubled the length of the pseudo-bulbs made last year; but flower-spikes in accordance cannot be expected, unless the former are thoroughly matured. No shading should now be made use of, except during the

middle hours of the day if very bright, until such time as the flowers begin to expand, when the blinds must be lowered to preserve the blooms from scorching. Abundance of moisture will be needed at the root until the flower spikes are removed, then less will suffice. The atmosphere should be kept a little drier, damping the houses in the morning only. Here a little top air is left on the house at all times after the flowers begin to expand, but the hot-water-pipes are always kept warm to prevent the temperature dropping too low.

Dendrobium formosum.—This useful species is also finishing up its growth, and is about to commence expanding its attractive white flowers. The treatment of the plant at this season is similar to that for *D. Phalaenopsis*, and the plants are very effective when grouped together with that one. After flowering is over they can be rested together in the same house, which should be warm and dry.

The Cool House.—The growths of *Odontoglossum Rossi*, *O. Cervantesii*, *O. Erstedii*, and the natural hybrids, *O. Humeana* and *O. aspersum* being sufficiently advanced, the plants may be repotted or surfaced as may be required. Fern-rhizomes may be employed as drainage material, and a potting compost consisting of two-fifths turfy peat, two-fifths leaf-soil, one-fifth chopped sphagnum. This should be made moderately firm, and clean fresh sphagnum laid on the surface. Shallow pans are the most suitable receptacles, as these can be suspended from the roof, in which position the plants grow well. If space can be afforded, newly-potted plants are the better for being stood on the stage till established. As the compost does not dry there so quickly as when the pans are suspended, a very small quantity of water will be needed to keep the compost moist, but when thoroughly established water will be needed in greater quantity, the compost, however, being allowed to become dry before water is afforded, more especially in the case of *O. Erstedii*, a species which is injured by constant excess of moisture at the root.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

General Hints.—In fine weather, when the soil is dry, hoe between all young crops, destroying weeds and aerating the soil. The clean appearance of the garden in winter largely depends on keeping it clean in every part at the present season, as after September weeds are more difficult to kill. Remove all remains of spent crops, clean up and burn all weeds, trimmings, and refuse.

French Beans.—Plants growing in pits and frames should be exposed as much as possible to sunshine, protecting them only on cold nights and from heavy rains. The plants must on no account be crowded, strong-growing varieties being allowed 10 inches from plant to plant. Let the plants be earthed-up to the seed leaves with turfy loam, leaf-soil, and spent manure from Mushroom-beds. Make another sowing in heated pits, or in pots which may be placed in a brisk temperature when necessary. Should the former method be adopted, make up the bed close to the glass, allowing just sufficient space for the growth of the plants. For pot-culture, choose 8 or 10-inch pots; and having afforded each good drainage, half fill them with a rich loamy compost, rather rough than fine, dibble-in five Beans in each, cover with soil to the depth of an inch, and stand the pots in a cold frame.

Endive.—The last sowing should now be made, choosing a situation on a south border. If cold frames are available mark out the space for these, but make no use of them till winter is approaching. Batavian Endive is the best for withstanding cold, and should be the variety now sown. Plants from the earlier sowings should be thinned and the thinnings planted before they become drawn. As soon as Endive has attained to full size tie up a number sufficient for daily use for a fortnight, but never do this when the plants are wet.

Radish and small Salads.—Make sowings forthwith on rich soil; sow also Mustard and Cress,

protecting the seeds from the sun and wind with mats or a thin covering of straw.

Peas.—Late-sown Peas coming into bearing should be afforded well diluted liquid-manure and be made safe against the wind with stout stakes inserted here and there in the rows, and connected with soft string.

Capsicums and Chillies.—If these plants are grown in pots in cold frames and they are carrying heavy crops of pods, a top-dressing of turfy-loam and cow-manure may be applied, and liquid manure alternately with clear water. Syringe the plants twice a day with sun-warmed water.

Gourds and Pumpkins.—Fruits now developing should be exposed fully to the sunshine so as to get them well coloured and well flavoured. Plants growing on manure-heaps or on very rich soil will need no manure-water, but others on a poorer medium should have abundance of liquid-manure applied at the root.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Cuttings of Plants which may now be Struck.—Among the various plants cuttings of which may be inserted forthwith are *Violas*, *Pentstemons*, and *Antirrhinums*. All of these are easily raised from seeds, but cuttings are to be preferred, as not only is the gardener able to make sure of certain colour effects, but a choice may be made from plants having a similarity of habit, which tends to promote a uniformity of growth that is absent in seedlings. *Viola* cuttings should be made from the small and firm shoots which may be found near to the centres of the plants. In the case of *Antirrhinums*, the small side growths provide the best sort of cuttings; and of *Pentstemons* any of the weak but healthy shoots that give no promise of flowering this year may be used. These, being hardy plants, may be rooted and wintered in cold frames placed on a hard, impervious bottom in an open position, elevated slightly above the surrounding level, so that water may readily drain away. A bed of sandy soil about 3 inches thick should be placed in the frames, into which the cuttings should be dibbled from 2 to 3 inches apart, and watered in. The frame must be kept close and shaded for a few days. If the old double crimson or any other choice *Sweet William* is grown, cuttings made from the smaller and more wiry growths may be struck in the same manner, a few being taken each year so as to provide against possible losses.

Bedding Plants.—Continue the propagation of bedding plants of all kinds until a sufficient stock has been secured, always allowing a considerable margin for losses. Where a good selected strain or strains of dwarf *Lobelias* have been secured, some of the plants should have all the flowering stems cut back a few inches, but should not be potted-up till later. Such make excellent plants for furnishing cuttings in the spring.

Deciduous Hedges, &c.—Beech, Hornbeam, or any other deciduous hard-wood hedges should now be clipped, before the new growth gets too hard. Fairly early clipping (i.e., as soon as possible after the second growth is mature) makes a very considerable difference in reducing the amount of labour required in using the shears. Some species of evergreens may also be gone lightly over, removing some of the strongest growths which may be getting too prominent or spoiling the symmetry of the bushes; but nothing like hard cutting-back should be indulged in at this season.

Lawns.—Bare patches on lawns should be pricked over, some suitable lawn grass-seeds sown, and be covered with a sprinkling of finely sifted soil, and then rolled or patted firm and smooth with a spade. August is a good time either for this patching work or for sowing grass seeds for forming lawns, the formation of which is sufficiently advanced; and in such cases it is better to sow now than to wait till the spring, as time will be saved, and the quality of the grass will be all the better.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bickton, Budleigh Salterton, Devonshire.

Fuchsias.—Cuttings inserted now and grown-on steadily without any rest make fine plants that will flower early next summer. Choose the points of growing shoots, pinch off all the flowers, and insert half a dozen around the edge of 3-inch pots filled with equal parts of loam and leaf-soil and a fair amount of silver-sand, and a little on the top of the soil to filter down with the cuttings. Place the pots on a mild hot-bed, or, failing this, stand them in a cold frame. Keep close and shaded in either case, dewing them overhead once or twice daily in bright weather, when in about five weeks they will be rooted well enough to be placed on a light shelf near the roof of a greenhouse, and be potted off singly into 3-inch pots a few weeks later. I find *Ballet-Girl*, *Mr. Gladstone*, *Molesworth* and *Mdme. Carnot* good double-corollaed varieties; and among the single-flowered, *Mrs. Marshall*, *General Roberts*, *Lord Beaconsfield*, *Rose of Castille* (improved), *Lady Heytesbury*, *Beauty of Wiltshire*, *Brutus*, *Loveliness* and *Eclipse* all very free. *Fuchsias* have done grandly this season, owing to the coolness of the weather. As the earlier-flowered old plants get exhausted, stand them in a sunny spot outdoors to ripen their growth. Plants in full flower should be assisted with manure-water occasionally, and by keeping all seed-vessels picked off.

Primulas.—The double-flowered variety *alba plena* should be ready to be moved into 4½-inch and 5½-inch pots, using a soil similar to that advised for *Primulas* in a former Calendar. Pot fairly firmly, and place in cold pits or frames near the glass, standing the pots on a floor of coal-ashes, but avoid affording too much water now and throughout the winter and spring. Keep a bit closer for a few days after repotting, and afford a thin shade in bright weather, lightly dewing them overhead with the syringe about 3 p.m. on such days, and removing all flowers for a month or six weeks. The same remarks apply to any of the single-flowered *Primulas* standing in small pots. Fumigate the frame two nights in succession should green-fly attack them, which they, as well as thrips, often do if their surroundings are too dry.

Calceolarias.—These plants will be fit for pricking off into boxes 2½ inches asunder, in a compost consisting of equal parts of sifted loam and leaf-soil, mixed with a good proportion of silver sand. Place them in a similar structure to that mentioned as being suitable for *Primulas*; those having a northern aspect for preference, and afford a like kind of treatment, keeping a close watch for slugs. Great care is necessary when dibbling-in the seedlings so as not to bruise the tiny stems, or failure will ensue.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq. Drogheda, Maldenhead.

The Fig.—The excessively wet weather has caused many of the fruits to crack, and so long as present conditions last, a freer growth of shoots than usual should be allowed; but the trees must not be allowed to become crowded, or the shoots will not withstand frost well. In the southern and western counties the Fig succeeds, and ripens its fruit on standards planted in sheltered places, and the fruits from these trees are always of fine colour and good flavour. There are sheltered gardens in the Midlands where this method of culture might be tried, the branches being protected against frost with straw, *Asparagus-tops* when dried, or a double thickness of bast mats.

Cob-nuts and Filberts.—Remove suckers from the bases of the bushes, unless any are required for planting later on. The wet weather has caused all kinds of weeds to grow apace, and an effort should be made to clear the ground forthwith under the nut-bushes by pulling up the largest and casting them on the rubbish fire, the Dutch-hoe being used to destroy weaker ones when the weather is dry. If squirrels make havoc with the crop they must be killed, or there will be no nuts left to ripen.

Hints on Work in General.—The fruits being cleared from the Raspberry-canes, cut away these and pull up all suckers not wanted for increase. Having done these jobs, secure the young canes to the stakes or wires loosely with soft string or bast. Autumn fruiting varieties must be protected with nets. The scarcity of dessert fruit in general will make autumn-fruiting Raspberries very valuable.

Plums.—Fruits of early Gage Plums are now ripening, and it is well to go over the trees every other day and gather all ripe fruits, which place on sheets of tissue-paper in the fruit-room for future use. These fruits will keep in good condition for several days.

FRUITS UNDER GLASS.

By T. H. C.

Late Vines.—It is of much importance to check all sub-laterals on late Vines in bearing, and thereby direct the energies of the Vine to the fruit, and permit sunlight to reach the laterals and principal leaves. *Gros Colmar* is a variety which requires a longer period to ripen than any other black Grape, and must be afforded artificial warmth throughout the autumn to enable it to finish properly. Other varieties are colouring fast, and should be afforded free ventilation day and night; less, of course, during the night, and gradually opening the ventilators or sashes more or less in the morning as the state of the weather permits. Maintain the Vine-borders in a moist state, and apply diluted cow-stable drainings, or sprinkle Thomson's Vine-manure on the surface, applying water to carry it down to the roots. Maintain the atmosphere in a moderately moist condition till the berries are of full size; when a moving, dry, warm air is desirable. At present a night warmth of 62° to 65°, and by day a temperature of 72° to 80° may be afforded. *Lady Downe's Seedling* (one of the best late Grapes), *Black Alicante*, *Gros Colmar*, *Appley Towers*, and *Mrs. Pince* are likewise good Grapes for keeping; while *Muscat of Alexandria*, if well ripened, keeps for a considerable length of time if cut with a piece of the shoot and put into bottles of water in the month of November.

Vine Borders.—The end of the present month is a good time to examine the borders of the earliest Vinery as to their condition, if loss of vigour is remarked in the Vines, shanking in the bunches, lack of size and colour in the berries, or any other evil, that may be caused by defective root action. By dealing with the borders at this season, the roots have time to seize upon the fresh soil before the leaves fall. If there are outside as well as inside borders, let a commencement be made with that inside the Vinery first, and renovate the outside border next year. Carefully remove the soil from among the roots, tying the latter in bundles as the work proceeds, keeping them moist and as little exposed to the air as possible. Having put the drainage into a proper state, make up the border with a compost consisting of good turfy loam, to which may be added, according to the quality of the loam, a heavy sprinkling of ½-inch bones, mortar rubble, and charcoal; then proceed to spread the roots out at different depths, having previously cut away decayed or bruised parts. Make the soil firm by trampling it, and afford tepid water abundantly, and mulch with a good thickness of spent Mushroom-bed materials. Let the foliage be syringed morning, noon, and evening, in very bright weather. Apply a slight amount of shading. The depth of a border, exclusive of drainage, need not exceed 2½ feet. In the case of aged Vines it may be prudent not to thoroughly renew the borders, but much good will result by removing all the inert soil down to where the roots are plentiful, making up the border again with a rich compost, in which carefully spread out the roots.

PUBLICATIONS RECEIVED.—Crop Report from Messrs. Shuis & Groot, Enkhuizen, Holland. *Proceedings of the Agri Horticultural Society of Madras*, January to March, 1903. Contents: Superintendent's Notes, Rainfall, Governor's Visit to the Gardens, Flower Show, &c. — *Agricultural Bulletin of the Straits and Federated Malay States*. Edited by H. N. Ridley. Contents: Rattans (concluded), by H. N. Ridley; Coconut Beetles, Camphor Tree, the Mosquito Plant, Rubber, &c.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, AUG. 25	Royal Oxfordshire Horticultural Society's Show. Brighton and Sussex Horticultural Society's Show (2 days).
WEDNESDAY, AUG. 26	Royal Botanical Society's Meeting Hampden Horticultural Society's Show. Bath Horticultural Society's Show (2 days). Reading Horticultural Society's Show.
THURSDAY, AUG. 27	Sandy and District Floral and Horticultural Society's Show. Irish Gardeners' Association's Meeting.

SALES FOR THE WEEK.

MONDAY, WEDNESDAY, and THURSDAY NEXT—
Trade Sale of over 2500 lots of Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10 o'clock.

FRIDAY, AUGUST 28—
Established Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —61.6°.

ACTUAL TEMPERATURES:—

LONDON.—August 19 (6 P.M.): Max. 68°; Min. 54°.

August 20.—Showery 64°.

PROVINCES.—August 19 (6 P.M.): Max. 65°, Home Counties; Min. 51°, Shetland.

Hollyhocks (see Supplement). DOES anyone know the meaning of the word? Does anyone know whence the plant, as grown in gardens, originated? We ask because the books either give different statements or express no opinion at all; and the copyists either repeat what their predecessors have said, without any attempt at verification, or they maintain a discreet silence. As to the name, PRIOR is vague and uncertain; BRITTON and HOLLAND do not venture on any explanation. Where authorities like these are in doubt or are silent, it is becoming in us to pronounce no opinion.

Now as to the source. The books mostly give China as the country whence the Hollyhocks have been obtained; but HEMSLEY, in the "Index of Chinese Plants," published in the *Journal of the Linnean Society*, only says it is cultivated and subsontaneous in China and Japan; and in the *Flora of British India* MASTERS says it is often cultivated in Indian gardens; so that there is little or no evidence that it is wild either in China, Japan, or India. There is no doubt, however, that *Althæa* or *Alcea rosea*, the origin of the common Hollyhock, is wild in certain parts of Greece and Italy, and in what the *Index Kewensis* comprehensively calls "Oriens."

The *Botanical Magazine*, tab. 3198, published in 1832, tells us that it was introduced

from China in 1753, but long before that, viz., in *Gerard's Herbal* (1597), at p. 784, it is figured under the name "*Malva arborea flore nigro multiplici*, the Tree Hollyhock with double flowers." At that time of day the term "Hollyhock" included all the plants we now call Mallows. "These Hollyhocks," says GERARD, "are sown in gardens almost everywhere and are in vain sought for elsewhere," so that he did not know the native country. A search through the old herbals of Germany and the Low Countries, from which GERARD derived much of his information, would no doubt be attended with interesting results.

In our own times the Hollyhock has undergone vicissitudes. The florists have decreed that the guard-petals, as they call them, shall be reduced to the smallest proportions, and thereby have, in the eyes of most flower-lovers, completely mauled the beauty of the flower.

A worse disaster than this overtook the plant a few years ago, when the Mallow fungus, *Puccinia malvacearum*, attained suddenly unwelcome predominance and almost destroyed the then existing plants. Exactly why the fungus suddenly assumed such virulence we do not know. It existed and still exists on the wild Mallows of the fields, where its ravages do not appear to be of a serious nature. Nor do we know why the severity of the attack has so much abated. We know that some fungicides, such as Condy's Fluid and Bordeaux-mixture, have been used by some keen florists, but the great majority have been content to let things take their own course. In any case, the Hollyhock now rears its stately spikes in full many a garden, to the joy of those who appreciate form and colour.

The best general account of the Hollyhock that we know of is that written by Mr. W. PAUL, entitled "An Hour with the Hollyhock." That treatise was written more than half a century ago, but requires but little to bring it up to date. It is included in Mr. PAUL'S *Contributions to Horticultural Literature*, a book we cannot too strongly recommend the young gardener of the present day to peruse, and not only to peruse, but to study.

The Wisley Garden.

NATURALLY the splendid gift which Sir THOMAS HANBURY has made to the Royal Horticultural Society has filled all our minds. It was with a strong desire to see this remarkable garden that a visit was paid there on Friday, August 14, from Byfleet station; and more recently the Council of the Society has visited it in company of Sir THOMAS HANBURY. By a narrow country road or lane of some three miles in length we arrived at our destination. It rained heavily on the road, but fortunately not after we reached Wisley. It is here worth mentioning that the late Mr. WILSON's head gardener, Mr. TATNALL, regards Horsley station, on the new Guildford line, reached by trains that go from Waterloo *via* Surbiton, or by Leatherhead, as the nearest and most direct route. Vehicles can also be obtained at Horsley, the distance being about three miles. The route is through the village of Ockham, and past Lord Lovelace's park, coming out into the Ripley road. Some half-mile or so up towards London a narrow turning, at which there is a board fixed indicating the position of the garden, may

be seen on the left hand. All the world might pass up or down the Ripley road and never know of the existence of such a garden. A few hundred yards onwards, Wisley Hüt, a famous house of entertainment, opposite which is a superb lake, is just about half a mile from the garden entrance. But if Weybridge station be fully five miles from the garden, at least at the present moment, the ride alone, apart from the garden, is worth taking. From the turn at the Fox Warren Lodge, beyond Byfleet, by which the road passes, leaving the fine St. George's Hill on the left, into the Ripley road, there is on both sides beautiful open common-land, and just now the huge areas of purple Heather are indeed glorious to see. Those who have not yet seen these marvellously beautiful spreads of colour on Wisley Common have something to regret.

It is suggested that an electric light railway may at some time be laid along this beautiful road. It is not probable that this will be done very soon, as for miles there are very few inhabitants, and the lover of beauty may well trust that never should this natural beauty be spoiled by such associations. The garden is as nearly as possible twenty miles from Hyde Park corner. Weybridge station is eighteen miles, and Horsley station twenty-two miles from Waterloo.

The one great drawback to the garden for the purposes of the Royal Horticultural Society is its distance from any railway station. Should the ordinary work in which the Committees are interested be transferred there, it is evident that the Council will have to make arrangements to convey members of those bodies to and fro free of expense, and also to provide at the garden refreshment accommodation. Were the latter provided, the gardens might then in the spring and summer become a great resort for the Fellows, for it is certain that all who love the beautiful in horticulture will find at Wisley delights which they have never before tasted.

It is no exaggeration to say of the garden that it is unique. There is scarcely any other such garden in the kingdom. It is a garden devoid of all plan, and is in all its aspects as wild as a garden can be—a garden that no pen can adequately describe nor picture portray. It was made piecemeal, and as the late Mr. WILSON's fancy dictated. There are no broad set paths, no geometrical beds. All is natural, yet natural with plants of every conceivable and, to many of us, inconceivable description. Our advice to all is, Go and see it at once.

Not a thing is named. That may be regrettable in a public garden that is to be educational; but labels in such a garden, if used, must be numbered by thousands. Probably the only man who knows everything there and its whereabouts is Mr. TATNALL, who, under Mr. WILSON's supervision, made this garden. There is no digging permitted in the many acres thus wildly planted. The men do little else but pull weeds and occasionally use the knife. As the garden is, so it must be kept. No Philistine hand must be laid upon it. Outside there are some forty acres of open land that can be utilised for any utilitarian purposes—for fruit or vegetable or flower-culture, or for an arboretum; and it is good land too.

WISLEY.—In view of the large number of letters I am receiving, asking if Wisley Garden can be visited by Fellows, will you permit me to say that at present the property has not yet been [formally] handed over to the Society, and that none of our officers is there as yet. It is therefore impossible to open it to the Fellows at present—in fact, some few months will probably elapse before that can be done, but due notice will be given to all Fellows as soon as possible. *W. Wilks, Secretary.*

ENGLISH ARBORICULTURAL SOCIETY.—The members of the above Society who held this week their summer meeting at Reading, travelled to Newbury, and drove from thence to Highclere Castle, the seat of the Earl of Carnarvon, who had invited the Society to visit his estate. The visitors first halted at the Castle, and they were particularly interested in the fine Cedars of Lebanon, which in large numbers stand within sight of the stately building. After inspecting the ornamental trees and the gardens, the party drove to Beacon Hill, which is surmounted by a deep fosse, bearing evidence of its great antiquity as a military station. A visit was also paid to Lord Carnarvon's stud-farm for race-horses, after which a drive through other portions of the estate brought them to the Cricket and Tennis ground, where Lord Carnarvon entertained them at luncheon.

DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—At the meeting of the Floral Committee on June 27, 1903, First-class Certificates were awarded to *Odontoglossum crispum* var., from Mr. W. C. BARON VAN BOETZELAAR, of Maartensdijk; to *Rosa polyantha* (seedling), an improvement on *Euphrosine*, as a new plant, from Messrs. GRATAMA BROTHERS & Co., of Hoogeveen. Certificates of Merit were granted to *Delphinium hybridum* Prof. van Stersson as a new plant, from Mr. W. VAN VEEN, of Leyden; to *Biota orientalis aurea* seedlings, from Mr. A. Spaargaren, at Aalsmeer; to *Cattleya Mendeli* (variety), from Mr. P. W. SUTOBIUS, at Baarn; to *Dianthus plumarius* Moerheimi, as a new plant, from Mr. B. RUY, of Dedemsvaart; to *Papaver orientale* Mahony, as a new plant, from Mr. B. RUY, at Dedemsvaart. A Cultural Commendation for *Gnaphalium Leontopodium* (specimen) from Mr. J. M. GOES DE CASTRICUM. A Silver Medal to a collection of hardy perennials (cut flowers) from Mr. RUY, Dedemsvaart.

—At the meeting on July 29 First-class Certificates were awarded to *Anthurium J. H. Tromp Meesters* as a new plant, from Mr. J. H. TROMP MEESTERS, at Steenwijk, with felicitations of the jury; to a *Begonia Fleur de Neige*, *Chrysanthemum frutescens* Saharet, *Fuchsia Andenken*, from HEINRICH HENKEL; as commendable plants from General ADRIAAN VAN SWIETEN, Tuinbouw School, at Frederiksoord; to *Canna indica Junen* as a new plant, from Messrs. VAN NAMEN BROTHERS, at Zwijndrecht. Certificates of Merit were granted to *Hæmanthus fascinator*, from Mr. A. S. VAN DEN BERG, of Amsterdam; to *Rose Lady Roberts* as a new plant, from Mr. H. J. BEERNINK, of Aalten; to *Chrysanthemum segetum Helios* and *Alonsoa miniata superba*, both from Messrs. GROENEWEGEN & Co., at Amsterdam. A Botanical Certificate was awarded to *Ageratum mexicanum crispum* from Messrs. GROENEWEGEN & Co., at Amsterdam, and a Cultural Commendation to *Chrysanthemum Soleil d'Octobre*, from Messrs. BODES and LEMMES, of Dordrecht, for successful culture. A Silver Medal as a 1st prize for a collection of *Delphiniums* was awarded to Mr. W. VAN VEEN, at Leyden.

THE HOME COUNTIES NATURE-STUDY EXHIBITION.—We are informed that the Home Counties Nature-Study Exhibition will be held

at the offices of the Civil Service Commission (formerly the buildings of the University of London), Burlington Gardens, London, from October 30 to November 3. Prospectuses, regulations, and prize-lists can be obtained from Mr. W. M. WEBB, Honorary Secretary, 20, Hanover Square, N.

M. COGNIAUX.—We are interested to find that among the recipients of academic honours at the recent celebrations at the University of Heidelberg was M. COGNIAUX. This celebrated botanist, known among horticulturists for his labours among the *Orchidaceæ*, was admitted to the degree of Doctor *in honoris causâ*. It would be difficult to find any one more worthy of such an honour.

SPECIFIC NAMES.—Sir WILLIAM T. THISELTON-DYER writes:—"I find in the *Gardeners' Chronicle* for August 15 last (p. 121) a letter from Mr. H. M. BATSON, which contains a statement which seems to me to require a little elucidation. In the *Kew Hand-Lists* I have deliberately adopted a practice of printing adjectival specific names without a capital. Mr. WOLLEY DOD is so good as to describe this as 'logical and consistent.' I will confess that I am of the same opinion, and that, in fact, this is the reason which led me to adopt the practice. I find, if I understand him correctly, but I am not sure that I do, that Mr. BATSON thinks that 'this practice seems merely to suggest that there has been carelessness in compilation or in proof-reading.' This strikes me as not a very gracious criticism of work which has been in great measure undertaken for the benefit of the horticultural world, with the expenditure of very considerable pains. That, however, is by the way; to test its validity would be a work of very considerable labour. I have no doubt that Mr. BATSON has in his eye instances of inconsistency on our part. It would be a favour if he would point them out."

PRESIDENT ROOSEVELT has the reputation of being skilled in forestry and horticulture. A portrait before us shows the President, axe on shoulder, on his way to fell a tree, Gladstone-fashion. It is to be hoped that he shows as much tact and discretion in woodcraft as in statesmanship.

DR. ALBERT WEBER died in Paris on July 27, at the age of seventy-three, after a somewhat prolonged illness. He was born in Strassburg, and from an early age he devoted himself to the study of the Cactus family. When eleven years old his mother made him a present of the first edition of Forster's *Handbuch der Kakteenkunde*. Soon after, he met Mr. SAGLION, who had a very large and most famous private collection of Cacti at his residence near Strassburg. It was here that Dr. WEBER laid the foundation of his studies. Later on, throughout his whole medical career, he spent his spare hours studying Cacti. He then had the opportunity of accompanying the French army of occupation to Mexico, in the reign of NAPOLEON III., and to study these plants in their native country. He spoke of himself as a pupil of Dr. ENGELMANN, with whom he kept up a regular correspondence. He never published anything during Dr. ENGELMANN's lifetime. He was certainly one of the best authorities on Cacti. Many species have been named by him, especially *Opuntias*. It was surprising how well he knew them, and how carefully he investigated them before he gave an opinion. There are still some plants in La Mortola which were named by him, and which have not yet been published. Only last September he paid a visit to La Mortola; he then appeared in the best of health, and it was interesting to watch him climbing over the rocky places in the garden, where he examined every succulent, from *Opuntias* to the most inconspicuous *Rhipsalis*, with the greatest interest and

enthusiasm. He was an honorary member of the *Deutsche Kakteen Gesellschaft*, and his loss will be deeply felt throughout the botanical world.—A. B.

IS MUSHROOM-SPAWN SEED?—Of course a botanist would have no difficulty in replying in the negative, but the Customs-House officers in India, it appears, think differently, and levy a duty on imported spawn as if it were seeds. The matter has not been contested in the law courts, or we might get our minds improved.

DESTRUCTION OF FRUIT CROPS IN JAMAICA.—A strong gale began to blow to the north lately in the island of Jamaica, and shifted to all points of the compass, growing in power and fierceness as it blew and changed its base until, as a hurricane, it had reached the estimated velocity of 120 miles an hour. Nothing could, as nothing did, withstand the terrible force of this visitation—houses, villages, homesteads, all were wiped out; and fruit-trees, fruit-crops of all kinds growing on the wind-swept land vanished from existence. Ruin has been spread over the greater part of two-thirds of the island—many square miles of what had been richly-cropped soil had become a waste, and on the evening of the day following the outburst thousands of people were rendered aimless and homeless on a desert—for to such a pass had the beautiful land come. The United Fruit Company is probably the largest sufferer, in a loss which is estimated at £2,000,000. It is worthy of note that efforts at reparation, aided from this side, have already been begun, but it will be long before there can be any Banana "prospects" to record—it will be very much longer ere this last terrible disaster will be forgotten.

HOME CORRESPONDENCE.

THE NAMES OF PLANTS.—Mr. C. Wolley Dod's question, "Will any objector tell us why Kew is wrong?" assumes that Kew is wrong. From the point of view of saving time and trouble, the practice adopted by Kew is usually considered by ordinary editors as the most convenient. Unless an editor is a botanist, it involves a considerable waste of time to hunt up the *Index Kewensis* to see whether initial capitals are used or not; and when the *Kew Hand-Lists* differ from that work, he may well be excused if he adopts a simple rule. In non-botanical works such a rule is excusable, but in botanical works surely anything within reason that helps the botanist to remember the meaning of the name should be utilised. This is especially necessary for teaching purposes. There is classical authority (*Cæsar, De Bello Gallico*) for using capital initial letters for adjectival forms of proper names, whether of persons or countries; and it is far simpler to use a capital wherever a proper name is utilised, whether as a noun or adjective, than to see Lindley or Hooker's name spelt in one place with a capital and in another with an ordinary letter; to employ italics for all old generic names used as specific, and to use inverted commas for unaltered native or vernacular names, e.g., *Rhamnus Frangula*, *Cestrum "Parqui"*. It is true that Linnaeus and some of his predecessors generally used small letters for adjectival forms of geographical names, but the rule was apparently no more strictly adhered to than the termination "*aceæ*" is for Natural Orders in Bentham's and Hooker's *Genera Plantarum*. Linnaeus, however, seems to have had an aim that is often lost sight of by modern botanists, viz., to leave no doubt as to the plant intended; he even sacrificed his rules occasionally on that account, as is evident in such names as *Asplenium Rutamuraria* and *Adiantum Capillus Veneris*. For the same reason, one rarely finds a Linnaean specific name (which should preferably be descriptive of a peculiarity of the species) derived from the name of a person. The enormous increase of both specific and generic names since his time renders it still more necessary to lessen the tax on

memory by the adoption of simple rules whereby the name may be more easily remembered by its meaning being understood. I have adopted the plan of using capital initial letters for all proper names, whether nominal or adjectival, and have, as yet, found no disadvantage, but, on the other hand, considerable utility in doing so. There are so many names of little-known places in foreign countries used as adjectival specific names, such as *caripensis*, *ardonensis*, &c., or names altered in form, such as *tabrisiana*, that without an initial capital the meaning of the name is not readily apparent. A curious instance of this occurs in the name *Citrus Medica*, which if spelt with an initial "m" means the Citron medicinal, although it properly means the Citron of the Medes. *E. M. Holmes*.

POA ANNUA.—I quite agree with Mr. Webster and others that this is a very valuable grass for town gardens. It seeds more freely and persistently than any other grass I know of; in fact, from early spring to Christmas, provided the season is mild, it is engaged in the work of reproduction. I should say it must be a difficult matter to save the seed in quantity, as it ripens so very gradually. Here, in Factory-land, I have found it to withstand the fogs and atmospheric impurities, where other grasses have perished during the winter months; and, further, it maintains its verdure underneath large trees. Drought very quickly affects it; but generally speaking there is plenty of water in London gardens and parks, so that difficulty is easily overcome. We laid out a disused churchyard last winter as a recreation-ground. It was not intended to sow the grass-plots until next spring. A tremendous crop of this grass, however, came up, and as it was allowed to seed until the end of June, we shall have good lawns next season without further trouble. I may say that the grave-mounds were levelled down some years ago, and I take it quantities of the seed must have been buried too deep to germinate, and that in trenching last winter it was brought near the surface. *Walter H. Aggett, Bermondsey, S.E.*

BAMBOOS FLOWERING.—Mr. Burbidge has somewhat misunderstood my communication to him on the flowering and seeding of hardy Bamboos. The only Bamboos that so far have produced seed with me are *Arundinaria Simoni* and *A. Laydekeri*. *Phyllostachys nigra* and *P. nigra v. nigro-punctata* flowered profusely with me last season and the season before, but no seed was observed, although careful search was made. Other Bamboos which have flowered in Europe are *Phyllostachys flexuosa*, *Arundinaria japonica* (*Métaké*), and *A. auriconia*; none of these died, though they were considerably weakened. *Arundinaria Simoni* and *A. Laydekeri* do not suffer in appearance from the effort of flowering. The individual culms wither, but the clumps as a whole are not affected. *Redesdale*.

FLOWERING OF CABBAGES.—I have been interested in your seed trade forecast of the seed crops. Under the heading of Brassicas your correspondent is evidently at sea. The reason for the shortage in Cabbage is not because "the Cabbages planted out for seed bolted into flower in spring so numerous," but the very opposite—that is, the Cabbages planted out for seed have failed to bolt and flower. I think any practical seed-grower will bear out this statement. My Cabbage-seed crops of various sorts this year covered over 70 acres, and in no case is there an average run; of some sorts not one plant in fifty has run for seed. *William Deal, junr., F.R.H.S., Kelvedon*.

THE WET SUMMER AND THE GROWTH OF CONIFERS AT DROPMORE.—The abundant rainfall of the present season has been most beneficial to all Coniferous-trees, and in the light soil at Dropmore Conifers have made strong growths, vigorous young specimens of *Cupressus macrocarpa lutea* having in some instances made leaders 2 feet in length, which are still growing. This golden-foliaged *Cupressus* forms a fine ornamental tree for garden decoration. *Cedrus Deodara alba spica* promises to grow into a very ornamental tree the points of the young shoots are creamy-white—a good tree for grouping or

forming an avenue. Some measurements of the finest specimen Conifers here taken recently may be of interest to your readers:—

	Height.	Girth at 5 feet.
<i>Picea rubra</i>	95 ft. 6 ins.	5 ft. 6 ins.
<i>Abies cephalonica</i>	86 ft. ...	8 ft. 5 ins.
<i>Tsuga Mertensiana</i>	76 ft. ...	6 ft. ...
<i>Pseudo-tsuga Douglassii</i>	127 ft.* ...	11 ft. 6 ins.
<i>Cedrus libani</i>	109 ft. ...	12 ft. 2 ins.
„ <i>Deodara</i>	102 ft. ...	8 ft. 5 ins.
„ <i>atlantica glauca</i>	78 ft. ...	7 ft. 2 ins.
<i>Cupressus Goveniana</i>	36 ft. ...	5 ft. 6 ins.
<i>Pinus rigida</i>	84 ft. ...	7 ft. 6 ins.
„ <i>Laricio</i>	102 ft. ...	10 ft. 3 ins.
„ <i>ponderosa</i>	98 ft. ...	8 ft. 5 ins.
„ <i>Lambertiana</i>	82 ft. 6 ins.	9 ft. 5 ins.
„ <i>cembra</i>	86 ft. ...	6 ft. 5 ins.
„ <i>radiata (insignis)</i>	82 ft. ...	13 ft. 3 ins.
„ <i>monticola</i>	74 ft. ...	5 ft. 2 ins.
„ <i>excelsa</i>	90 ft. ...	5 ft. 3 ins.
<i>Juniperus virginiana</i>	55 ft. ...	5 ft. ...
<i>Sequoia gigantea</i>	90 ft. ...	14 ft. 3 ins.
„ <i>sempervirens</i>	114 ft. ...	8 ft. 6 ins.
<i>Abies grandis</i>	86 ft. ...	8 ft. ...
<i>Thuja gigantea</i>	85 ft. ...	5 ft. 10 ins.
<i>Libocedrus decurrens</i>	70 ft. ...	5 ft. 2 ins.
<i>Araucaria imbricata</i>	58 ft. ...	6 ft. 7 ins.

* The top droops and would if erect measure another 3 feet. † Carrying cones.

These measurements were taken with a dendrometer. *Chas. Page, Dropmore Gardens, Maidenhead, Bucks.*

MANURES FOR GRASS-LAND.—I have read with much interest the results of experimental manure on grass by your correspondent, Mr. J. J. Willis, Harpenden, and should be glad if he would be good enough to state the quantity of sulphate of potash, soda, magnesia, superphosphates, &c., when applied, or if used in conjunction with animal manure; also the commercial names and price and value per acre; it would then be valuable to our neighbouring farmers, &c. *John Pope, King's Norton, near Birmingham.*

Mr. Willis, to whom we sent the above note, obligingly writes:—

"The Rothamsted experiments on grass-land were arranged to teach certain agricultural lessons, and not for the practical farmer to follow in all their detail. For general pasture purposes it may be said that a dressing of from 8 to 10 tons of farmyard-manure per acre may be applied once in every four or five years. Then to keep up the quality of the herbage use 5 cwt. of basic slag with 3 cwt. of kainit per acre. These may be applied every other year, and put on as early in January as the weather permits.

"If the land is deficient in humus (organic) matter, superphosphate of say 30 per cent. soluble phosphate, at the rate of 3 cwt. per acre, should be used instead of the basic slag. Bone-meal, at the rate of 4 cwt. per acre every other year, is also a capital manure for meadows; kainit may be mixed with this. If the land has been grazed by farm-stock and requires sweetening, apply chalk-lime (ground) at the rate of $\frac{1}{2}$ ton per acre, in addition to the foregoing mixtures. This may be put on any time from November to January.

"Should it be desired to cut the crop for hay, apply in March each year from $\frac{1}{2}$ to 1 cwt. of nitrate of soda per acre, just to give a stimulus. But do not exceed this amount, otherwise the finer Grasses and Clovers will be forced out, and the coarsely-growing species will be too greatly encouraged. It may be mentioned that basic-slag is better than superphosphate for wet meadows. The present wholesale prices of the manures mentioned are as follows:—Nitrate of soda, £10 per ton; bone-meal, £5 per ton; kainit, containing 23 per cent. of potash, £2 10s. per ton; basic-slag of 38 to 45 per cent. phosphate, £2 5s. per ton. Superphosphates vary in price according to the proportion of phosphate made soluble; the higher grades are always to be preferred. *J. J. Willis, Harpenden.*

THE FLAVOUR OF THE SULTANIEH GRAPE.—In the *Gardeners' Chronicle* of August 8, p. 104, there is the report of the Fruit Committee on the Sultanieh seedless Grape. It runs thus:—"Rose-coloured, transparent Grape, with delicate bloom, but not much flavour." Yet others who tried it after the Committee had given judgment on it declared that it was of good flavour, and one connoisseur declared it "very delicious." Now, what can be the cause of this discrepancy? I had noticed that the judges previously had before them the Peach Libra, and had eaten small slices of this Peach in order to ascertain its flavour. I believe this is the explanation of the discrepancy alluded to. There was not time enough for their palates to re-acquire a neutral condition after having been impressed by the flavour of the Peach, and so the flavour of the Sultanieh Grape was considered insufficient. Perhaps a somewhat similar phenomenon occurred to myself recently. The flavour of the Cape Gooseberry (*Physalis peruviana*) is unique; it is distinct, and very agreeable; yet this is what happened:—I had been eating some Strawberry Grapes,

the flavour of which is strong, distinct, and very nice. After them I tried some Cape Gooseberries, and was disappointed with their flavour; they were almost flavourless! Anybody can make the following experiment. Drink a little claret of a brand preferred for its fine flavour, then eat some caviare on a bit of toast, and after having swallowed it drink a little more claret, it will be found that the same wine highly approved of before has now become a nasty compound! In my tasting experiences I found sherry is the proper wine after caviare. Suppose the judging committee had to decide at one sitting on the qualities and flavour values of Peaches, Grapes, Melons, Apples, &c., the chances are that they would unconsciously deliver an erroneous judgment, excepting on the first fruit tasted, for the risk of their palates becoming vitiated by the flavour of the fruit previously tasted is, I think, not small. Perhaps I may be permitted to suggest that the Royal Horticultural Society on such occasions should provide a plate of Olives, so that the impression of the flavour of one kind of fruit may be wiped out by that of an Olive; for there is nothing that cleans the palate so well as an Olive. If some object to Olives, then bread-and-cheese (preferably Roquefort) might have a similar effect. The other alternative would be to allow a certain interval to elapse after the tasting of each fruit, so as to admit of the palate regaining its normal neutrality; but this is not practicable, for it would take up too much of the Committee's time. In judging of the colour of flowers, one would avoid using tinted glass-spectacles; so, in judging of flavours, one requires some care not to misjudge them, owing to palate-impressions of previous fruits. This discussion raises an interesting question. Does the smoking of tobacco, before giving judgment on a flavour, interfere with the pronouncing a right judgment? This can only be ascertained by a series of experiments made by the same person, for different persons might be a source of confusion in the result. I believe tea-tasters are very careful to allow a long rest to their palates before they undertake the work of their profession. This physiological question may possibly be of some importance. Market gardeners, and also amateurs, rely on the verdict of the Fruit Committee when a new fruit is submitted to their expert judgment. And if a horticulturist was enterprising enough to try a new fruit, he might think it waste of time to try a tree that produced fruit which had "not much flavour." I tried this Grape when I had a clean palate, and gave some to another person to try who had also a clean palate, and we both came to the conclusion that the Sultanieh Grape is "simply delicious." *E. Bonavia, M.D.*

SPORTING OF CARNATIONS.—The note on a Carnation sporting induced me to record the most remarkable case of that kind that has come under my notice, and which occurred only a week or two ago. I had cuttings of several continental Carnations sent me a few years ago, some of which are desirable varieties, others obviously not far removed from types of the sixteenth century. One of the latter, a yellow ground with stripes, sported to a pure white ground, but with no alteration in the markings, the same plant bearing a self-coloured bloom at the same time. Is there any other instance of a Carnation sporting in this way, and is it any indication that the yellow grounds originated from a white variety? I suppose not. While on the subject of sports I may say that *Verbena Miss E. Willmott* sported with me to a lovely deep rose colour. Has this happened with others? I mentioned the matter to the raiser the last time I met her, but it was new to her. A very curious case of reversion happened here some years ago to a variegated *Ficus elastica*, one-half of the plant retaining its characteristic variegation, while the other half is green, the lines of demarcation being apparent even to portions of the leaves. If it had been confined to leaves issuing, one kind from one half of the stem, and one half from the other, that would have been notable, but a leaf springing from either portion, if it passes beyond the median line, acquires and retains either the self-green of the one or the blotched yellow of the other side is still more remarkable. *R. P. Brotherston*.

SOCIETIES.

ROYAL HORTICULTURAL.

AUGUST 18.—On this occasion the Drill Hall, Buckingham Gate, was unusually gay with *Gladiolus*, *Hollyhocks*, *Begonias*, hardy herbaceous perennials and *Dahlias*.

Floral Committee.

Present: H. B. May, Esq. (in the Chair), and Messrs. C. T. Druery, G. Nicholson, R. Dean, J. Jennings, Howe, G. Reuthe, C. Dixon, C. Jeffries, J. W. Barr, C. E. Pearson, R. C. Notcutt, W. Cuthbertson, H. J. Jones, C. E. Shea, W. P. Thomson, E. H. Jenkins, W. J. James, G. Paul and A. Perry.

Messrs. PAUL & SON, The Old Nurseries, Cheshunt,

The same firm showed several cut specimens of hardy shrubs, as, for instance, *Colutea melanocalyx*, a species having orange-coloured flowers; *C. arborescens*, *C. cruenta*, with brown and yellow flowers; *Ailanthus glandulosa pendulifolia*, with very large and massive-looking leaves, with a leaf-stalk tinged with brown on the upper side; *Carpinus purpurea*, the younger leaves of which have a reddish-brown tinge; *Betula aurea*, whose young leaves have a yellowish



FIG. 53.—*CALOCHORTUS PULCHELLUS*. (SEE P. 133.)

Orchids were more numerous than at the last two meetings, many choice species and varieties, both old and new, being exhibited; and some well-grown and finely-flowered *Bouvardias* heralded the approach of autumn.

A rather numerous company visited the Hall.

N., exhibited shrubby *Phloxes* in variety, including *Coquelicot* (crimson), *La Sicile* (rosy-purple), *Iris* (purple, of a rich tint), *Evenement* (cerise), *Caron d'Ache* (crimson-lake), *Cyrano* (purple and white), and *Fiancée*. Sprigs of *Statice* were stuck in between the

tint; *Catalpa purpurea*, the young leaves purple of a deep tint; *Fagus sylvatica*, the foliage of which at the ends of the shoots is of a yellow tint; shoots of *Pyrus* *Sorbus* in fruit, *Betula pyramidalis*, with wavy, deeply dentate foliage, very distinct.

Messrs. JOHN FRED & SON, West Norwood, S.E.

showed cut flowers of hardy herbaceous perennials, &c., which included Phloxes, Chrysanthemum maximum, Helianthus, Statice, Echinops ruthenicus, with steely-coloured, round flower-heads; Montbretias in variety, and a few Michaelmas Daisies. Besides these, there were in show-boxes of soil covered with pieces of rock a large number of Alpine plants, in and out of flower.

Messrs. J. CHEAL & SONS, Lowfield, Crawley, showed in zinc tubes placed in big show-boxes topped with live moss, single flowered varieties of Dahlias, of which we may mention as attractive in colouring Miss Morland, Madge, Meta, The Sirdar, Columbine, Irene, Cleopatra, &c.; Cactus Dahlias of the convolute or thread-petalled type, Galliard, Theodora, Ajax, J. W. Wilkinson, Eva, Columbia, T. H. Jackson, W. Jowitt, Lyric, Vesta, and Mrs. de Luca. There were likewise about a dozen varieties of Poppoms (Silver Banksian Medal).

Messrs. J. VEITCH & SONS, Ltd., Royal Exotic Nursery, Chelsea, S.W., showed again the showy Senecio clivorum; several tubfuls of Watsonia Arderuii, having slender stems rising to a height of from 3 to 5 feet, surmounted with spikes of pure white flowers; Astilbe Davidi, having tall spikes of purple-coloured inflorescences; enormous flower-heads of Sambucus canadensis; Streptocarpus (Veitch's hybrids), having pretty shades of colour, and flowers in some cases larger than one usually sees, especially large and showy being those of the Achimenes strain. The seed was sown in January, and the plants came into flower in six months (Silver Flora Medal).

Messrs. H. & G. BULLINGTON, Nurserymen, Matlock Bank, showed Carnation The Duchess, a large flower of a light pink tint, and possessing a good calyx.

Messrs. R. VEITCH & SON, Royal Exotic Nursery, Exeter, showed shoots of Coriaria terminalis, having yellow fleshy fruits of the shape of those of the Yew, and pinnate leaves 8 inches in length and 3 inches in width. They showed likewise Aster canescens, Chrysopsis variety Rutleri (a yellow Composite), Fagus Zlatia, the Golden Beech.

Herr W. PFITZER, Stuttgart, exhibited (through Mr. G. SCHNEIDER, 17, Ifield Road, Fulham Road, S.W., his agent in this country) some extraordinarily fine varieties of tuberous-rooted, single-flowered Begonias of much substance and large size, having frilled edges like those of Primula sinensis, the frilling running entirely round each petal and giving the flowers an unusually attractive appearance. There were pink, yellow, crimson, and scarlet-coloured varieties. Herr Pfitzer also showed Begonia Bavaria of the floribunda type, rosy-crimson in colour, for which he received an Award of Merit.

Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, showed Hydrangea japonica variegata, a white variety of Plumbago capensis, Campanula isophylla, Swansonia galegifolia alba, Solanum jasminoides, nicely flowered; Nerium Oleander rosea splendens, and N. O. r. s. variegata, with telling leaf variegation of creamy white. He showed besides these many plants of Bouvardia in a variety of colours, most of which were capitally bloomed; Paneratum fragrans, &c. The flowering plants were agreeably set off by numerous small Ferns (Silver-gilt Flora Medal).

Mr. E. POTTEN, Camden Nurseries, Cranbrook, Kent, exhibited various hardy perennial herbaceous plants, including Trollius europaeus improved, a floriferous plant with flowers of a bright yellow tint; Phloxes of the shrubby type, Buddleia variabilis, Potentilla Hopwoodensis, Montbretias, including the fine large crimson Germania; Ceanothus, Tritomas, Helianthus, Heleniums, Veronica rosea, and a fine lot of flower spikes of Penstemons (Silver Banksian Medal).

Mr. AMOS PERRY, Hardy Plant Farm, Winchmore Hill, London, N., showed a very imposing group of hardy herbaceous perennials as cut flowers. Among these were Lythrum roseum superbum; many choice varieties of shrubby Phloxes; Veronica spicata alba and the type; Heleniums, Bocconia cordata, a white-flowered Monarda didyma, Chrysanthemum maximum Mrs. Head, various Hemerocallis, Chelone glabra, Tritomas, Clematis integrifolia, Campanula Mariesi, plants of Fuchsia globosa in bloom, Geum Heldreichi var. superba, with brilliant orange-scarlet coloured flowers (Silver Banksian Medal).

Mr. B. LADHAMS, Nurseryman, Shirley, Southampton, showed some beautiful Gaillardias of the oculata types, all having been raised from G. grandiflora. Other of his exhibits were the perpetual Pinks, Mrs. Moulard, Florence, and Marion; Chrysanthemum maximum var. Monarch (a fine showy flower); the hardy hybrid Lobelia Andrew Barlow (having a good risp of purple-

coloured flowers); Geum "Apricot," and Heliopsis B. Ladhams (Silver Banksian Medal).

Messrs. BARR & SONS, King Street, Covent Garden, showed extensively Hardy herbaceous perennials, including many Gladiolus mentioned in another part of our report; Violas in variety, including the striking variety Sunset; Campanulas, shrubby Phloxes in many fine varieties, Montbretias (very fine), Kniphofias, Wachendorfia paniculata, Lilies, Alstromerias, Trollius, Water Lilies, a few Scabiosa, Lythrum, Miscanthus chinensis and M. zebrina, strong-growing grasses, good for planting near water; a new Campanula carpatia named China Cup, much stronger in growth and larger flowers than the type (Silver Flora Medal).

Hollyhock.—It was satisfactory to see this fine old florist's flower shown so numerous and in such good character; the fine collection shown by Messrs. WEBB & BRAND, the successors of the veteran William Chater, of Saffron Walden, furnished evidence that the Hollyhock is getting back to its pristine vigour, and recovering from the effects of the fungus which during the past thirty years destroyed so many collections. There were eighteen fine spikes of varied colours, and 144 cut blooms, all of good quality, showing substantial improvement in the flower which is highly satisfactory (Silver-gilt Banksian Medal).

Gladiolus.—A magnificent collection of spikes of bloom numbering 250 were staged by Messrs. KELWAY & SON, Langport, Somerset. The fine quality of all was a proof that the wet summer had not affected the development of the Gladiolus at Langport. The darkest in colour, shades of deep crimson to maroon, were Lucius, Wellington, Mike Lambrow, Shahzada, The Sultan, Western Glory, Sir Evelyn Wood (very fine), Maharajah of Kolhapur, &c.; shades of crimson and scarlet with rosy-scarlet were seen in Lord Idlesleigh, John Warren, Earl Cadogan, Colossal, Arthur Toms, F. Field, Marcius, Duke of Devonshire, Lord Rothschild, E. J. Lowe, Tros (very fine), W. Hobhouse, Lord Methuen, General Buller, Marchand, Sunshine, Cellini &c. Shades of purple are scarce, the few varieties showing this colour were Captain Kelway (a fine new variety), Lord Hawke, and Persimmon; of rose and deep pink shades some of the finest were Langport Wonder, Cervantes, Meteor, Calliphon, Winnie Talbot, Ontario, and Shirley Hibberd; of delicate tinted varieties, soft-pink, blush, and cream, there were Mrs. Foster, Numa, Gribon, Mrs. T. Field, Miss Monro, Appianus, Egeria, Princess Royal, Shakespeare, Sarah Bernhardt, Philon, and Richard Milson (Silver-gilt Flora Medal).

Baron SCHROEDER, The Dell, Egham (gr., Mr. Ballantine), had a small but interesting collection of Canadian hybrids which appeared to possess the blood of Gandavensis, Lemoinei, Nanceanus, and Childsii. In colour they ranged from cream through yellow to dark crimson and purple; the flowers finely formed and generally with large dark throat blotches (Silver Flora Medal awarded by the Council).

Mr. W. C. BULL, Rathlin, Ramsgate, sent a small collection showing much individuality of character, the flowers more rounded in form in some of them than is usually seen, and having the colour usually found on the throat segment confined to the bottom of the open throat. Nymph, a very fine white with a yellow flame; Sulphureus, pale yellow; Phyllis, blush tipped purple, were the best (Award of Merit).

Messrs. CHAMPION & Co., Old Street, St. Luke's, showed a number of superior-finished plant-tubs, in round, square, and triangular forms.

Awards.

AWARDS OF MERIT.

Gladiolus Lady Muriel Digby.—Primrose, with a yellow stain on the throat and crimson markings; a large-flowered variety, forming a bold spike. Messrs. KELWAY & SON, Langport.

Gladiolus Nymph.—A large white variety, with rounded segments and a stain of yellow on the lower, with a disc of colour at the base of the open throat. Mr. W. C. BULL, Rathlin, Ramsgate.

Tamaria odesana.—A shrub with fine foliage and long pinkish inflorescence.

Orchid Committee.

Present: Henry Little, Esq. (in the Chair); and Messrs. James O'Brien (Hon. Sec.), W. Cobb, H. M. Pollett, J. Douglas, F. Wellesley, G. F. Moore, H. Ballantine, H. T. Pitt, W. Boxall, F. J. Thorne, H. A. Tracy, W. H. White, W. H. Young, and T. W. Bond.

Several excellent groups were staged, the number of hybrid Orchids included being specially interesting.

Captain G. L. HOLFORD, C.I.E., Westonbirt, Tetbury (gr., Mr. Alexander), was awarded a Silver Flora Medal for a fine group of superbly-grown Orchids, the specimen of *Laelio-Cattleya* × *callistoglossa excelsa* (for which his grower was accorded a Cultural Commendation) being a marvellously fine exhibit. Also in the group were good *L.-C.* × *Bletchleyensis*, *L.-C.* × *eximia*, *Cattleya* × *Germania superba*, with a grand head of bloom; the handsome *C. Pittiana* (Schofieldiana × aurea), *C. x* *Fernand Denis*, *C. x* *intricata*, and a noble example of *Vanda coerulesa* with a spike of eighteen flowers.

Messrs. CHARLESWORTH & Co., Heaton, Bradford, secured a Silver Flora Medal for a good group, the novelties in which were *Cattleya* × *Ceres* (Schilleriana × *Luddemanniana*), a pretty hybrid with whitish sepals and petals and large labellum like a fine *C. Schilleriana*; *Laelio-Cattleya* × *luminosa aurifera*, with golden-yellow sepals and petals; and *Rodriguezia grandis*, provisionally named (? K. Batemani), a very remarkable species with large whitish flowers striped and tinged with lilac. In the group also were *Cattleya* × *Iris Fascinator*, *C. x* *Niobe*, *Laelio-Cattleya* × *Bletchleyensis*, *L.-C.* × *Adolphus*, the rich reddish-scarlet *Sophro-Cattleya* × *heatoniensis*, *Laelia* × *Iona superba*, *Stanhopea oculata*, *Brassia Lawrenceana*, *Odontoglossum* × *crocidipterum*, *Catasetum callosum*, *Masdevallia* × *McVittia*, *M. x* *Pourbaixi*, *Platyclinis filiformis*, &c.

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), received a Silver Flora Medal for a fine group, which included a very good *Odontoglossum*, and notably a variety of *O. crispum*, which had the sepals and labellum nearly covered with red purple blotches. Also noteworthy were *Bollea celestis*, *Odontoglossum Uro-Skinneri album*, *Cattleya* × *Atalanta*, *C. Gaskelliana albens*, *Laelio-Cattleya* × *Mrs. Pitt*, *L.-C.* × *elegans*, *L.-C.* × *Nyssa*, the new and pretty *L.-C.* × *Constance Wigan*, *Laelia monophylla*, the delicately coloured *Cypripedium* × *Felicity*, *C. x* *Wiertzianum*, *Aëranthes carphophorus*, &c.

Messrs. SANDER & SONS, St. Albans, had a select group, including the fine *Cypripedium* × *Uitor*, *C. x* *Cassandra*, and other *Cypripediums*; *Phaius maculatus*, varieties of *Laelio-Cattleya* × *Bletchleyensis*, and other *Laelio-Cattleyas*; *Miltonia vexillaria superba*, the pretty *Pachystoma Thompsonianum*, and other interesting species (Silver Flora Medal).

Messrs. STANLEY, ASHTON & Co., Southgate, had an excellent group, the central figure of which was the richly-coloured *Laelia* × *Iona* Southgate variety, which took the only Award of Merit of the day. Also noted in the group were *Laelia* × *Amanda*, *Cattleya* × *F. W. Wigan*, forms of *C. Loddigesii*, *Cypripedium* × *Carnuianum*, and other *Cypripediums*; *Oncidium* × *Mantini*, the handsome yellow-and-brown *O. Forbesii* Borwickianum, *O. incurvum album*, &c. (Silver Flora Medal).

JEREMIAH COLMAN, Esq., Gattin Park (gr., Mr. W. P. Bound), sent a singular variety of *Laelio-Cattleya* × *elegans* with a narrow elongated front lobe to the lip.

FRANCIS WELLESLEY, Esq., Westfield, Woking (gr., Mr. Hopkins), sent *Cypripedium* × *Wiertzianum*, *Bleu's* variety; *Laelio-Cattleya* × *Herman Holmes superba*, and *Laelia* × *Olivia alba*, differing from the original in having white sepals and petals instead of yellow ones.

C. J. LUCAS, Esq., Warnham Court (gr., Mr. G. Duncan), sent *Laelio-Cattleya Bletchleyensis* and *Cypripedium* × *Lord Derby*.

FRED. HARDY, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), sent the handsome *Sophro-Cattleya* × *George Hardy* (*S. grandiflora* × *C. Acklandiae*), a distinct flower of an Indian yellow tint, flushed and spotted with purple. It had previously received an Award of Merit.

J. BRADSHAW, Esq., The Grange, Southgate (gr., Mr. Whitelegge) showed *Cattleya* × *Comet* (Warneri × aurea), with purplish-rose sepals and petals, and velvety-purple lip with a yellow base.

W. M. APPLETON, Esq., Weston-super-Mare, showed *Cypripedium* × *Rolfes*, Appleton's variety; *C. x* *Phoebe*, and *C. x* *Bingleyense*. C. L. N. INGRAM, Esq., Elstead, Godalming (gr., Mr. T. W. Bard), sent *Laelio-Cattleya* × *Epicasta fulgens* (C. Warszewiczii × *L. Dayana*), and *L.-C.* × *Meteor* (*L. Dayana* × *C. Bowringiana*).

Awards.

AWARD OF MERIT.

Laelia × *Iona*, Southgate variety (*Dayana* × *tenebrosa*), from Messrs. STANLEY, ASHTON & Co., Southgate. No hybrid of this cross had previously found favour with the Committee, but the Southgate variety, a finely-

formed and richly-coloured flower, was much appreciated. The two-flowered spike had perfectly formed flowers, with sepals and petals of a purplish-rose the circular-fronted labellum being of a glowing dark ruby-purple colour, with claret veining from the base.

CULTURAL COMMENDATION.

To Mr. George Matthews, gr. to Lord Auckland, Kitley, Plymouth, for a fine spike of *Oncidium luridum* guttatum, 7 feet 6 inches in length, and bearing 230 flowers.

To Mr. Alexander, Orchid-grower to Captain G. L. HOLFORD, for a grand specimen of *Laelio-Cattleya* × *Callistoglossa* excelsa, with twelve flowers.

Fruit and Vegetable Committee.

Present: Mr. G. Bunyard, in the chair; also Messrs. H. Balderson, J. Cheal, W. Bates, H. Esling, A. Dean, J. Barham, G. Help, H. Markham, Owen Thomas, J. H. Veitch, J. Jaques, J. Willard, G. Wythes, F. Q. Lane, and C. G. Nix.

Mr. G. WYTHES, Syon House Gardens, sent two seedling scarlet-flesh Melons, neither fully ripe; one, however, had remarkably thick, smooth, rich-coloured flesh; it was to be seen again when riper. There also came from the same exhibitor two Vegetable-Marrows, one long and white, the other pear-shaped, the products of crossing the Turk's-cap with the Custard Marrow. He was asked to send fruits to be cooked with other varieties at Chiswick on Monday next.

Mr. H. PARR sent from Trent Park Gardens, Barnet, a couple of long green Marrows of the bush variety; also a box of over-large Tomatos of the variety named "Coronation." Plants of this are now being grown at Chiswick. Mr. W. J. Staples, gr. to DE BARY CRAWSHAY, Esq., Rosefield, Sevenoaks, had a couple of curved Cucumbers.

Messrs. T. RIVERS & SONS, Sawbridgeworth, exhibited handsome rich-coloured but over-ripe fruits of their new mid-season Peach "Peregrine," of good flavour (Award of Merit). From Mr. J. BOWERMAN, Hackwood Park Gardens, Basingstoke, came a quantity of pods and clusters of a superb Scarlet Runner Bean named "Hackwood Success." Not only is the variety most prolific, but the pods are long and straight, averaging 12 inches in length (Award of Merit).

The Rev. G. F. EYRE ROCK, Worcestershire, sent pods of a fine Pea, The Logan, which closely resembles Sutton's Exhibition Marrow and other varieties. Asked to send seeds to Chiswick next year.

Mr. G. KENT, Norbury Park Gardens, Dorking, sent a bunch of a seedling Grape, no information being given as to parentage. The berries were of great size, oval in shape, black and very fleshy, and apparently of excellent flavour, but not yet ripe. He was desired to show it again in a month.

Mr. J. HUDSON, gr. to LEOPOLD DE ROTHSCHILD, Esq., had a dish of very fine fruit of Royal Sovereign Strawberry, gathered out-of-doors from forced plants put out in the spring.

CULTURAL COMMENDATION.

Messrs. SPOONER & SONS, Hounslow, put up a fine collection of Apples, from their Nurseries, all grown out-of-doors, where, for a wonder, they seem to have a great crop. They were chiefly shown in baskets and boxes. Of those most noteworthy were Lady Sudeley, Pott's Seedling, Lord Grosvenor, Nonsuch, Beauty of Bath, Red Astrachan, Red Quarrenden, Stirling Castle, Frogmore Prolific, Grenadier, and Worcester Pearmain (Silver-gilt Knightian Medal).

From Messrs. DOBBIE & SONS, Rothesay, came (grown at their Kentish nursery, Orpington) a very attractive, handsome, and clean collection of twenty-five varieties of Potatos, in baskets of about sixty tubers each. Of whites, very fine were Duke of York, White Beauty of Hebron, Kingleader, Windsor Castle, Sharpe's Victor, Sir J. Llewellyn, Sutton's A 1, The Factor, British Queen, British Premier, and Alpha. Of coloured varieties, excellent were Crimson Beauty, White Elephant, Eightfold, Mr. Breesee, and Lord Beaconsfield (Silver-gilt Knightian Medal).

TAUNTON DEANE HORTICULTURAL.

AUGUST 13.—This was the thirty-sixth annual exhibition of the Taunton Deane Horticultural Society that succeeds one that was in operation in the town fifty years ago, and which held three exhibitions each summer. The exhibition on the 13th inst. surpassed in extent, and in many respects in quality, any previous one. There was not only a substantial increase in the number of exhibitors, but a large one in the number of entries. One very large tent was set apart

for the classes open to all, and it was most inconveniently crowded; though in previous years it had proved amply sufficient. In the division open to amateurs and gardeners, arranged in another very large tent, there was the same crowding. A supplementary tent was filled with groups and some specimen plants; another, considerably enlarged, accommodated floral decorations; the "open-to-all" fruit and vegetables filled another large tent; another had the cottagers' productions; another, honey.

The task of judging was an onerous one, but the admirable arrangements made by the secretary, Mr. J. S. Winsor, greatly facilitated the work of the judges, and enabled the tents to be thrown open at the advertised time. One very interesting feature was the two classes for British wild flowers: one was for twenty-four species, collected by the exhibitor in Somerset and Devon; the other for the same number, collected in the same counties between April 1, 1903, and the day of exhibition—in the latter case dried and mounted, but in both cases labelled in full with their Latin and common names and natural order, according to the *Student's Flora*, by Sir J. D. Hooker. The judges of these—the Rev. Prebendary Smith, East Brent, and Dr. H. J. Alford, of Taunton—spoke in the highest terms of appreciation of the exhibits in these two classes.

In the "Open-to-all" tent, stove and greenhouse plants in collections of twelve, all in flower, made a very fine display. Messrs. JAMES CYPHER & SONS, Queen's Road Nursery, Cheltenham, taking the 1st prize with very large examples of *Statice intermedia* and *Stephanotis floribunda*, *Bougainvillea Sanderiana*, and having also examples of *Ixora macrothyrsa*, *Allamanda nobilis*, *Bougainvillea glabra*, &c. Mr. W. VAUSE, nurseryman, Leamington, was in strong force, showing admirable specimens, and took the 2nd prize, and very closely up too, with two very fine specimen *Ericas*, *Ixoras Williamsii* and *I. Pilgrimi*, *Allamanda Hendersoni*, &c. W. MARSHALL, Esq., Taunton (gr., W. Thomas), who had a finely-grown collection, was 3rd; and the judges recommended that an extra prize should be given to Mr. GEO. TUCKER, nurseryman, Hilperton, who put up very good twelve specimens. With six plants Messrs. CYPHER & SONS were again 1st, having finely developed plants; Mr. W. VAUSE was 2nd; and Mr. W. BROCK, Exeter (gr., W. Rowland), 3rd.

There were several classes for specimen plants, stove and greenhouse, and soft wooded, in which good examples were staged. A very good specimen of *Physanthus albens*, trained over a balloon trellis, well grown and flowered, appeared among the greenhouse plants. Messrs. CYPHER & SONS were also 1st with eight fine foliaged plants, and Mr. W. VAUSE, 2nd.

Mr. W. BROCK had the best eight exotic Ferns, staging fine specimens; and Mr. G. TUCKER came 2nd with well-balanced examples.

GROUPS OF PLANTS

arranged for effect formed a fitting centre to one tent. In the Open division Mr. W. VAUSE was 1st; Mr. W. BROCK, 2nd; and Messrs. E. S. COLE & SON, nurserymen, Bath, 3rd.

In the Amateurs' division Mr. BROCK was 1st; and Colonel SANDFORD, Wellington (S. Kidley, gr.), 2nd.

Tuberous Begonias were in the form of fine specimens. Mr. W. MARSHALL was 1st, and Mr. G. TUCKER, 2nd. Some good specimen single and double Zonal Pelargoniums were staged, also Fuchsias in fours; there were some very good Cockscombs also.

Messrs. CYPHER & SONS were the only exhibitors of four Orchids, staging well-bloomed examples.

STOVE AND GREENHOUSE PLANTS.

Some very good specimens of stove and greenhouse plants were staged by amateurs. The best twelve, which included foliaged plants, came from Mr. MARSHALL; Mr. BROCK being 2nd.

Mr. BROCK had the best six, and also the best four; Colonel SANDFORD coming 2nd in both classes.

Colonel the Hon. H. P. GORE-LANGTON, Hatch Beauchamp (W. H. Bruford, gr.), came 1st with six fine exotic Ferns; and Mr. H. S. BAILY, 2nd; the latter being the only exhibitor of four Orchids, which received the 1st prize.

Some excellent Lilies in pots were shown by Mr. W. MARSHALL, varieties of *L. auratum* and *L. speciosum*. Specimens of *L. auratum* were good also; the best came from Mr. W. W. BAKER, Bridgwater, who was 1st with six single tuberous *Begonias*; and Mr. W. MARSHALL 1st with six double, both very good.

Zonal Pelargoniums in sixes, single and double; Coleus, very well coloured; Gloxinias, the best coming from Mr. MARSHALL. There were very good plants of Achimenes, the best from Mr. W. J. VILLAR. Good Petunias were also staged; also Caladiums and Cockscombs.

CUT FLOWERS

are always a strong feature at Taunton. In the Open division Messrs. PERKINS & SON, Nurserymen, Coventry, had the best thirty-six cut Roses; Messrs. J. TOWNSEND & SON, Worcester, were 2nd. With eighteen blooms, Messrs. PERKINS & SON were again 1st, and Messrs. JARMAN & CO., Chard, 2nd. Mr. H. CORDER, Bridgwater, had the best twelve Teas; Messrs. J.

TOWNSEND & SONS were 2nd. The Roses generally were fairly good.

Messrs. J. CRAY & SONS, Frome, came 1st with a dozen very good show Dahlias; Mr. GEO. HUMPHRIES, Chippenham, was 2nd. With six fancy Dahlias the position of these exhibitors was reversed. Messrs. J. CRAY & SONS had the best six bunches of single Dahlias, and also nine bunches of Pompons. Messrs. JARMAN & CO. had the best six Cactus; all the Dahlias were better than could have been expected. Phloxes were shown in good character; there were Asters of the Comet type; Phlox Drummondii in bunches made a fine display. Mr. A. R. BROWN, Handsworth, was 1st with twelve self and twelve fancy Carnations, showing very good blooms. Mr. MARSHALL was 1st with twelve bunches of Stove and Greenhouse cut flowers. Fine Begonia blooms double and single from Mr. T. J. TARR, Yatton; and the Rev. J. D. PRING, North Cury.

HARDY PERENNIAL AND BULBOUS PLANTS

were finely shown in collections of eighteen bunches by Mr. W. TRESEDER, Cardiff; and Messrs. W. J. STOKES & SON, Trowbridge. The best twelve bunches of Sweet Peas came from the Rev. P. W. BRAUCKER. The best twelve bunches competing for the special prize offered by Mr. R. SYDENHAM came from Mr. R. D. HANCOCK, Halse.

In the Amateurs' division cut flowers were numerous shown. The best eighteen bunches of perennials were from Mr. W. M. LAWES; Mr. J. POLE, Taunton, a close 2nd. Gladioli in collections of twelve spikes were good; Asters were not up to their usual mark. Mr. MARSHALL was 1st with twelve bunches of stove and greenhouse cut flowers; Dahlias, Roses, Dahlias of different types, and hardy annuals were also competing.

Floral decorations. The best dinner table, open to ladies only, was set up by Mrs. BARNET BLAKE, Bath; Mrs. HILL, Bridgwater, 2nd, both with charming arrangements. In another class Mr. T. LOCK, Crediton, was 1st; and Messrs. E. COLE & SON, 2nd, both displaying excellent workmanship. Messrs. J. CYPHER & SONS had the best épergne; Messrs. COUSINS, Taunton, the best hand bouquet. Baskets and bouquets of wild flowers were highly attractive.

FRUIT

was well represented. J. W. DIGBY, Esq., Sherborne Castle (gr., T. Turton), was 1st with eight dishes, having Black Hamburg and Muscat of Alexandria Grapes; Royal George Peaches, Elruge Nectarines, Figs, Melon Plums, and Apricots; the Exors of Lady ASHBURTON, Romsey (gr., G. Hall), were 2nd. Mr. HALL had the same varieties of Grapes, also Peaches, Figs, Plums, &c. With four dishes Mr. HALL came 1st with finely finished Madresfield Court Grapes, Sea Eagle Peach, Pine-apple Nectarines and Melons; Mr. J. W. FLEMING, Romsey, (gr., W. Mitchell), was 2nd. Mr. MITCHELL had the best three bunches of Black Hamburg Grapes, well finished; Mrs. T. BOX, Yeovil, was 2nd.

With three bunches of any other Black Mr. MITCHELL came 1st with excellent Gros Maroc; Mr. HALL, 2nd, with Madresfield Court.

Mr. MITCHELL was 1st with three bunches of White Muscats; and Mr. TURTON, 2nd. Any other White was Foster's Seedling, from Mr. HALL; Mr. R. G. SCHERVILLE, Taunton, was 2nd with very good Buckland Sweetwater.

Melons were plentiful; Peaches and Nectarines not so good as usual. Dessert Pears were represented by Jargonelle; dessert Apples by Beauty of Bath. Culinary Apples by fine Lord Suffield. Red and White Currants were good; and Gooseberries very fine.

VEGETABLES

were well represented. Messrs. SUTTON & SONS, JARMAN & CO. and DANIELS BROS. all offered special prizes, but the general quality throughout was not equal to that in former years.

MISCELLANEOUS COLLECTIONS

abounded. Messrs. KELWAY & SON, Langport, had a very fine collection of Gladioli; and Certificates of Merit were awarded to Mrs. Badcock, Beatrice Kelway, C. M. Kelway, Countess of Dudley, and Happy Match. Messrs. R. T. VEITCH & SONS, Exeter, had a large and interesting collection of plants and flowers. Certificates of Merit were awarded to *Lonicera Hildebrandtii* and to a golden-leaved *Fagus* named *Zlatia*. They also had *Corydalis thalictroides* in good character. Mr. W. B. SMALE, Torquay, had Cactus and other Dahlias; a new variety of the former named Noonday appeared to be a refined gloriosa. Mr. VINCENT SLADE, florist, Taunton, had excellent zonal Pelargoniums, and also Clematis and Roses in pots. Messrs. M. FRICHARD, nurseryman, Christchurch, and Mr. J. H. WHITE, nurseryman, Worcester, had excellent collections of hardy flowers. Messrs. BLACKMORE & SONS, Twerton Nursery, Bath, and B. R. DAVIS & SON, Yeovil, *Begonias* in fine variety. Messrs. W. TUPLIN & SON had various flowers. Mr. W. TRESEDER the same. Messrs. JARMAN & CO., Chard, a representative collection of cut flowers in good character, &c.

SHROPSHIRE HORTICULTURAL EXHIBITION AT SHREWSBURY.

"BIGGER AND BETTER THAN EVER."

AUGUST 19, 20.—On Wednesday and Thursday of the present week the twenty-ninth annual exhibition of the Shropshire Horticultural Society was held in the beautiful pleasure-grounds at Shrewsbury known as "The Quarry." The first exhibition was held in 1875, when the number of exhibitors was 74, the number of entries 217, the number of prizes 312, and the amount of prize-money £200. The extraordinary growth that has taken place is shown by the figures of 1902, when there were 379 exhibitors, 2,600 entries, 815 prizes, and £1,061 15s. in prize-money. The total receipts at the last exhibition amounted to £4,746, and the number of visitors was 75,000. During the Society's history it has contributed to local charities a sum of £8,428.

The Society has been so fortunate for years past in having good weather for its shows that the Committee now manages to keep cheerful until the exhibition day under conditions that would be quite sufficient to scare more timorous folk. On Tuesday last the appearances seemed altogether against fair weather. Rain fell in quantities, and the "glass" was very low. But as last year, on Wednesday morning the sun shone brightly, the "glass" was rising slowly, and throughout the day there was ideal weather. There can be no doubt that upon the whole the exhibition was larger and better than ever. We were informed that the secretaries received about 300 entries in excess of those of last year, and there were nine tents this year, and six or at most seven tents last year. The entries were therefore something like 3,000. As last year, the two largest tents were illuminated with electricity on the night preceding the show, so that exhibitors of groups for effect, and other arrangements that necessitate a great deal of time, were able to work during the greater part of the night.

The INDOOR FRUIT was as good as usual. In the Champion Grape class Mr. J. W. GOODACRE has won further laurels, beating Mr. SHINGLER, who won last year; and Messrs. BUCHANAN, who were 2nd last year and this. Messrs. BUCHANAN showed wonderful Muscat Grapes, three of their bunches taking the maximum number of points that could be awarded. It is worth special mention that Mr. GOODACRE won all the three 1st prizes in the big fruit classes, that for the dessert table and those for the Champion Grapes, and for a collection of sixteen dishes of fruit.

VEGETABLES were good. This wretched season has at least one redeeming feature. It has grown some good vegetables, excluding Potatoes, for these are diseased badly. The show at Shrewsbury promises well for that to be held next month at Chiswick.

For the rest, there were delightful exhibits of hardy flowers, Dahlias, tuberous Begonias, and many other plants and cut flowers.

The show gained very considerably by the exhibit of Hippeastrums from Col. HOLFORD, and the splendid fruit trees from Messrs. RIVERS.

Once again it is our privilege to congratulate the Honorary Secretaries, Messrs. Adnitt and Naunton, upon the success attained, and which their efforts have so well deserved.

PLANTS.

The principal classes for plants are the ordinary ones for groups of miscellaneous plants arranged for effect. Never are there seen better, more skilfully arranged groups of this nature than those staged each year at Shrewsbury, and they are displayed in a spacious tent in which there is ample room for visitors to see them with comparative ease. We have on many previous occasions described the characteristics of these miscellaneous groups arranged for exhibition which have been for some years past of a style which Messrs. Cypher have done more than anyone else to make popular. The exhibits on this occasion were not so distinct from previous ones that it is necessary to describe them in detail. They are wonderful creations; they possess an extraordinary fascination for the bulk of the visitors, and they contain such an amount of material, and require such an expenditure of time, that they only become possible if large money-

prizes are offered to those exhibiting them. On the present occasion in the class for a group of plants in and out of bloom on a space of 300 square feet the 1st prize was awarded to Mr. W. FINCH, Coventry; the 2nd to Messrs. CYPHER & SON, Cheltenham; and the 3rd to Mr. W. VAUSE, Leamington. In a similar class for foliage plants exclusively the 1st prize was awarded to Messrs. CYPHER & SON; the 2nd to Mr. JOHN THOMPSON, Derby; and the 3rd to the Earl of CARNARVON, Bretby Park, Burton (gr., Mr. J. Read). In these two classes alone prizes are awarded which amount to £120.

Fifteen Stove and Greenhouse Plants.—Messrs. CYPHER & SONS, Cheltenham, easily won in this class, and showed mammoth plants of *Statice intermedia*, *Stephanotis floribunda*, *Erica Marnockiana*, *Allamanda nobilis*, *Codiaeum Warrenti*, *Ixora Duffii*, *Bougainvillea Cypheri*, &c.; 2nd, Mr. W. VAUSE, Leamington; 3rd, Mr. W. FINCH, Coventry.

Six Stove and Greenhouse Plants.—The best collection of six plants was shown by T. SUTTON TIMMIS, Esq., Cleverley, Allerton, Liverpool (gr., Mr. B. Cromwell). The species were *Lapageria rosea*, *Stephanotis floribunda*, *Ixora Williamsii*, *I. Duffii*, *Statice profusa*, and *Kentia Fosteriana*. The 2nd prize fell to Messrs. CYPHER & SONS.

Begonias.—There were excellent displays of tuberous-rooted Begonias in pots, on spaces of 15 feet by 4 feet. The 1st prize was won by a truly magnificent exhibit from Mr. FRED DAVIS, Woolashill (gr., Mr. Pershore). The flowers were as large as the best shown at the "Temple" exhibition in May. 2nd, Messrs. BLACKMORE & LANGDON, Twerton Hill Nurseries, Bath; 3rd, Messrs. B. R. DAVIS & SON, Yeovil.

Caladiums were shown by a few exhibitors, and the best were good-sized specimens from T. SUTTON TIMMIS, Esq., Cleverley, Allerton (gr., Mr. Cromwell).

Coleus plants were shown, trained as pyramids about 5 to 6 feet high. Some of the best were shown by JNO. BARKER, Esq., Old Grammar School House, Shrewsbury (gr., Mr. H. Worrall).

Zonal Pelargoniums and **Fuchsias** were exhibited in specimens of moderate size.

Ferns were quite a feature in one of the tents. There were several collections of four exotic species, the 1st prize being awarded to T. SUTTON TIMMIS, Esq.

The best collection of *Thirty miscellaneous plants* was shown by Lord HARLECH, Brogyntyn (gr., Mr. T. Lambert). The plants were in five-inch pots, and some of them suitable for the ornamentation of the dinner table.

The best collection of twelve plants suitable for the dinner table, was from T. SUTTON TIMMIS, Esq., Allerton, being very pretty specimens of *Codiaeum*, *Palms*, and *Pandanus Veitchii*.

Lord HARLECH obtained a 1st prize for a collection of six stove and greenhouse plants, in a class limited to residents in Shropshire. In this exhibit was a very good plant of *Clerodendron fallax*, evidently a "cut back" specimen. There were other classes likewise limited to Shropshire residents, to which we cannot refer in detail.

Gloxinias were good, but not specially remarkable (except those from Messrs. SUTTON & SONS).

Cordylines (*Dracenas*) were shown also in classes by themselves, and there were some good plants amongst these.

THE DESSERT TABLES.

The first class in this section is that for a dessert table, decorated with plants and foliage, the tables measuring 10 feet by 4 feet 6 inches. Not more than fifteen dishes of fruit were permitted in each exhibit, and the kinds that might be selected were specified in the schedule. Each table was covered with a white cloth, but no silver, electro-plate, wine-glasses, or decanters were allowed. There were three exhibitors, and of these the Earl of HARRINGTON, Elvaston Castle, Derby (gr., Mr. J. H. Goodacre), was successful in winning the 1st prize, having an exceedingly attractive arrangement. The fruits shown and the number of points awarded each were as follows:—

	Points awarded.	Points possible.
Apples	6½	7
"	6½	7
Figs	5	7
Grapes	6½	10
"	8	10
"	5	10
"	7½	10
Melons	7	8
"	6	8
Nectarines	7½	8
"	6	8
Peaches	6½	8
"	6½	8
Pears	6½	7
"	6½	7
For Decoration ...	24	28
Points awarded ...	118½	151

The varieties of fruits shown were as follows:—Grapes, Muscat of Alexandria, Canon Hall Muscat, Madresfield Court, and Black Hambro; Apples, Ribston Pippin, Washington; Nectarines, Elruge,

Pineapple; Peaches, Bellegarde and Princess of Wales; Pears, Pitmaston Duchess and Marguerite Marillat; Figs, Brown Turkey; and two Melons. The decorations were of Francoa, Gypsophila, and Chironia. The 2nd prize was won by G. FARQUHAR, Esq., Eastnor Castle (gr. Mr. G. Mullins), who won a total of 107 points. He had excellent Bigarreau Napoleon Cherries, fine and richly coloured Bellegarde Peaches, two good Melons, a satisfactory dish of Figs and Apricots, Nectarines, Apples, four bunches of Grapes, &c. The decorations were of Francoa and Montbretia crocosmæifera. 3rd, The Hon. Mrs. MEYNELL INGRAM, Temple Newsam, Leeds (gr. Mr. R. Dawes), who was awarded 97 points.

COLLECTIONS OF FRUIT.

There were three important classes for collections of fruits, and in each case the exhibits were decorated with plants and flowers, that were judged separately, and awarded three additional prizes in each class.

COLLECTION OF SIXTEEN DISHES.

The largest class called for sixteen dishes of fruit, distinct, in not fewer than twelve kinds, and including not more than two varieties of a kind. Black and white Grapes were to be considered distinct kinds of fruit. The exhibits occupied spaces of 8 feet by 4 feet 6 inches each. Pines were excluded, and the prizes were designed to encourage the "highest cultural merit." There were three exhibits, and the 1st prize was won by the Earl of HARRINGTON (gr., Mr. J. H. Goodacre). He had of Grapes, Duke of Buccleuch (2), Madresfield Court, very nice (2), Black Hambro (2), and Muscat of Alexandria. The Muscats were well coloured, but not of remarkable weight. Of Peaches there were Bellegarde and Princess; Nectarines, Lord Napier; Figs, Brown Turkey; Apricots, Turkey; Plums, Transparent Gage; Strawberry Royal Sovereign; Pears, Souvenir du Congrès; Apple Ribston Pippin; Melons, Taunton Hero and a seedling; and Cherries, Morello. The veteran victors in so many battles showed capital in this one. The 2nd prize was won by Lord BIDDULPH, Ledbury Park (gr., Mr. J. Dawes). He had good Black Alicante Grapes, very heavy, and moderate bunches of Muscat of Alexandria and Cooper's Black; also immensely large Sea Eagle Peaches, very fine Morello Cherries, Lord Napier Nectarine, Transparent Gage Plums, Brown Turkey Figs, &c. 3rd, Mr. F. JORDAN, gr. to Dr. CORBETT, Impney Hall, Droitwich. This exhibitor had large, very well-coloured bunches of Chasselas Napoleon Grapes, and several other varieties of Grapes in good condition, especially Muscat of Alexandria; he had excellent Peaches Bellegarde and Violet Hative, Nectarines Spenser, Apricot Moorpark, Melons Hero of Lockinge and Frogmore Scarlet, &c. This exhibitor won the 1st prize for his decorations, and the Earl of HARRINGTON was 2nd.

Collection of twelve Dishes.—In this class there was a very fine display, there being five exhibitors. The 1st prize was won by the Hon. Mrs. MEYNELL INGRAM, Temple Newsam, who showed Gros Maroc, Muscat of Alexandria, and Madresfield Court Grapes, of which the Muscats were weakest; Peaches Bellegarde and Dymond, Nectarine Stanwick Elruge (very highly coloured), Plum Kirke's, Fig Brown Turkey, Apple Washington, Pear Marguerite Marillat, Melons Ring-leader and another; Mrs. F. NEED, York House, Malvern, won the 2nd prize. Peaches were again very good in this exhibit, Apples and Plums very weak, and the rest of moderate quality. 3rd, H. H. FRANCE HAYHURST, Esq., Overley, Wellington (gr., Mr. S. Bremmell); and 4th, Mrs. SWANN, Halston Hall, Oswestry (gr., Mr. C. Roberts). For decoration, the 1st prize was awarded to the exhibitor last named.

Collection of Nine Dishes.—There were only two exhibitors in this smaller class, and the 1st prize was won by C. F. K. MAINWARING, Esq., Oteley, Ellesmere (gr., Mr. C. Wilkins). He had two dishes of Peaches and two dishes of Nectarines, four bunches of Grapes, a Melon, a dish of Figs, and a dish of Pears. 2nd, Rev. T. M. BULKELEY, Owen Tedsmore Hall, West Felton (gr., Mr. J. Langley), who had rather heavy bunches of Foster's Seedling Grapes, though not perfectly finished, and a good dish of Prince Englebert Plums, &c.

CHAMPION GRAPE CLASS.

(FIRST, MR. GOODACRE.)

In class seventy-seven there was a great contest for the magnificent Silver Vase, value £52 10s., which was illustrated in these pages in August last year, and which the Marquis of HASTINGS (gr. Mr. W. Shingler) has held during the past twelve months. This Challenge Vase will not become the property of an exhibitor until he has won it three times.

The class calls for twelve bunches of grapes, in four or more distinct varieties, but not more than four bunches of any one variety. The directions to the judges were that each bunch should be judged on its individual merits, and points awarded accordingly. The maximum number of points that could be awarded for Muscat varieties was eleven, for Black Hambro ten, and for each other variety, nine. Superior cultivation and finish were to be given preference over mere size. Each collection was decorated with

flowering or foliage plants, and cut flowers, but this was done to secure a good effect only, the decorations being judged and an additional prize awarded, quite independently of the fruit. There were five exhibits, and therefore sixty good bunches of grapes.

The 1st prize was narrowly won by the Earl of HARRINGTON (gr., Mr. Goodacre), who succeeded owing to the varieties selected being finer in quality than those in the second prize collection, and consequently the pointing was higher. But in the 2nd prize collection some of the bunches were awarded the maximum number of points possible to the varieties shown. The Earl of HARRINGTON's collection included Muscat of Hamburg (3), Muscat of Alexandria (4), Madresfield Court (3), Black Hamburg (2). The pointing was as follows:—

Bunch No.	Points possible.	Points awarded.
1... Black Hamburg	10	9
2... Madresfield Court	11	10
3... Muscat of Alexandria	11	9
4... Madresfield Court	11	10
5... Muscat of Alexandria	11	8
6... Muscat Hamburg	11	10½
7... Muscat Hamburg	11	11
8... Muscat of Alexandria	11	9
9... Madresfield Court	11	10½
10... Black Hamburg	10	9½
11... Muscat of Alexandria	11	8½
12... Muscat Hamburg	11	10½
	130	115½

The above collection was praiseworthy from every point of view, and most of the bunches were of good weight and finish.

The 2nd prize was awarded to Messrs. D. & W. BUCHANAN, Kippen, Stirling, N.B., who won 113½ points. The four bunches of Muscat of Alexandria in this exhibit were the best in the show, being about 5 lb. each in weight, and highly finished. The fourth bunch was a little less heavy, but it was better coloured than any. The pointing was as follows:—

Bunch No.	Points possible.	Points awarded.
1... Alnwick Seedling	9	8½
2... Muscat of Alexandria	11	11
3... Cooper's Black	9	9
4... " " "	9	8½
5... Muscat of Alexandria	11	11
6... Cooper's Black	9	9
7... Black Alicante	9	9
8... Muscat of Alexandria	11	11
9... Alnwick Seedling	9	9
10... " " "	9	8½
11... Muscat of Alexandria	11	10½
12... Black Alicante	9	8½
Total	116	113½

The Black Alicante bunches were very heavy. This firm was 2nd last year also. The 3rd prize was won by Lord HASTINGS, Melton Constable Hall, Norfolk (gr. Mr. W. Shingler), who won the Champion Vase last year. This year he gained 107½ points. His varieties were Madresfield Court (4), Muscat of Alexandria (2), Black Hamburg (1), Alnwick Seedling (4), Gros Maroc (1). He obtained maximum points for single bunches of Madresfield Court, Alnwick Seedling, and Gros Maroc. The Muscats of Alexandria were weak, one bunch particularly lacking colour. 4th, Col. PLATT, C.B., Gorrington (gr., Mr. W. A. Coates), who got 105½ points. 5th, the Hon. Mrs. MEYNELL INGRAM, Temple Newsam, near Leeds (gr., Mr. R. Dawes), who was awarded 80 points.

The prizes for decorations were awarded in this Class as follows:—1st, Col. PLATT; 2nd, Hon. Mrs. MEYNELL INGRAM; 3rd, The Earl of HARRINGTON.

OTHER GRAPE CLASSES.

There were six exhibitors in a class for four bunches of Grapes, two of a black and two of a white variety. The best bunches were from Lord HARLECH, Brognytny, Oswestry (gr. Mr. T. Lambert). The varieties were: Muscat of Alexandria, long well-shaped bunches about 3 lb. in weight, pretty well finished, and Madresfield Court, of good weight and moderate finish. 2nd, J. BAYLEY, Esq., Bryn-y-Mewadd, Llanfairfechan (gr. Mr. C. Richardson). In this case the varieties were Muscat of Alexandria and Black Hamburg, all heavy bunches of pretty good finish. 3rd, F. K. MAINWARING, Esq., Oteley, Ellesmere.

Two Bunches Black Hamburg.—Two very excellent bunches won 1st prize for the Earl of HARRINGTON (gr., Mr. Goodacre). The colour of the berries was splendidly developed in this case. Larger bunches and less good berries were shown by the Rev. T. M. BULKELEY OWEN, 3rd, E. MULLER MUNDY, Esq., Shipley Hall, Derby (gr. Mr. J. C. Tallack). There were five exhibitors.

Single Bunch of Black Hamburg.—The Earl of HARRINGTON (gr., Mr. Goodacre) was again 1st for the single bunch, showing a short thick heavy bunch, large in berry and well coloured. There were eight exhibitors.

Two Bunches of Madresfield Court.—This variety was shown best by Lord HASTINGS (gr. Mr. Shingler), who had very long slightly curved bunches of very large

berries, that were thoroughly "finished," and densely covered with bloom. The Earl of HARRINGTON came next with good bunches, bearing less colour; and the Rev. T. M. BULKELEY OWEN was 3rd. All of these were good. There were seven exhibitors.

Two Bunches Black Alicante.—There were four exhibits in this class, and Lord HASTINGS won the 1st prize with very heavy, perfectly coloured examples; 2nd, J. C. WATERHOUSE, Esq., Prestbury (gr., Mr. A. H. Hall).

Two Bunches of Gros Maroc.—Of eight exhibits in this class, that from Lord HASTINGS (gr., Mr. Shingler) was ahead of the others, the bunches were large, and the berries were as big as Plums; 2nd, the Earl of HARRINGTON; and 3rd, Mrs. F. ALDERSON, Frankton (gr., Mr. G. Davies).

Two Bunches of Muscat of Alexandria.—There were eight exhibits in this class for the best of all Grapes, and the 1st prize was awarded to Mrs. H. S. GOUGH, Taly-Cain, R.S.O. (gr., Mr. F. W. Everett), who had immense bunches, probably 7 lb. each in weight; but they were not very well coloured, and some of the berries were rather small; 2nd, J. BAYLEY, Esq., Llanfairfechan (gr., Mr. C. Richardson), with good bunches a little weak in colour; 3rd, Earl of HARRINGTON, with long, rather meagre bunches, of excellent colour.

Single Bunch Muscat of Alexandria.—The 1st prize was won from eight other exhibitors by Messrs. D. & W. BUCHANAN, Kippen, N.B.

Any other White Grape.—There were five entries, and the 1st prize was won by J. C. WATERHOUSE, Esq., Prestbury, for small bunches of Chasselas Napoleon, with extra large berries of good colour; 2nd, Col. PLATT, C.B., with very heavy bunches of Foster's Seedling, small in berry, and not fully coloured; 3rd, D. MARRIAGE, Esq., Chorley, Lancs. (gr., Mr. F. W. Kerr), with rather poor bunches of the same variety.

Single Bunch of Diamond Jubilee.—The 1st prize was awarded to a densely coloured bunch of big berries shown by T. CORBETT, Esq., Impney Hall, Droitwich (gr., Mr. F. Jordan). The Earl of HARRINGTON (gr., Mr. Goodacre) had an excellent bunch of this much discussed Grape, not coloured so well, but the berries were extremely large.

STONE AND OTHER FRUITS.

Six Plums.—There were eight entries, and a dish of the variety Prince Englebert, shown by J. B. WOOD, Esq., Henley Hall, Ludlow (gr., Mr. H. Huxter), was placed 1st.

Twelve Red Plums.—The Earl of HARRINGTON (gr., Mr. Goodacre) won 1st prize in this class with fine fruits of Cox's Emperor.

Twelve Purple Plums.—The variety Kirk's Plum, won in a competition amongst eight exhibitors, the winner being the Earl of HARRINGTON.

Twelve Yellow Plums.—Golden Drop won 1st prize here for the Earl of HARRINGTON; and in a class for twelve Gage Plums, the 1st prize was awarded to the same exhibitor for a good dish of Transparent Gage.

Melons.—The best white-fleshed Melon was Hero of Lockinge, shown by R. CLAYTON SWAN, Esq., Gaddesby Hall, Leicester (gr., Mr. G. Selley); there were eleven exhibits. Of the scarlet-fleshed varieties, the best was Sutton's Scarlet, shown by Mrs. R. DARBY, Adcote (gr., Mr. R. Lawley); there were fourteen exhibits. The best green-fleshed variety was a seedling, shown by the Earl of HARRINGTON.

Apricots.—There were seven dishes of Apricots, and some of the fruits were very fine. The 1st prize was won by Major CLIVE, Hereford (gr., Mr. R. Grindrod), with beautiful fruits of Early Red.

Nectarines.—There were eight dishes of Nectarines, and all of them were satisfactory. The best was Rivers' Orange, shown by Sir GEO. MEYRICK, Bodorgan, Anglesey (gr., Mr. W. Pilgrim); 2nd, the variety Pineapple, shown by R. CLAYTON SWAN, Esq.

Twelve Peaches.—Among twelve dishes of twelve Peaches, the best was Bellegarde, shown by Major CLIVE; and the same variety shown by the Hon. Mrs. MEYNELL INGRAM was 2nd; and the variety Violet Hative, from T. CORBETT, Esq., Impney Hall, Droitwich, was 3rd. The Peaches were capital throughout in size and colour.

CUT FLOWERS.

The principal cut flower at Shrewsbury this year was the Sweet Pea. There were numerous classes in which prizes were offered by Mr. ROBERT SYDENHAM and other trade growers, as well as those by the Society itself. One tent contained Sweet Peas exclusively, and they were staged in other tents as well. Some of the exhibits were exceedingly pretty, but we cannot refer to them now in detail. The following exhibitors were amongst those who won 1st prizes:—Mrs. C. LASHMORE, Market Drayton; Miss M. E. JONES, Grapes Hotel, Bicton; Mr. W. SHROPSHIRE, Market Drayton; Mr. T. JONES, Ruabon; Mr. H. ALDERSEY, Aldersey Hall, Chester (gr., Mr. Jno. Chisholm).

HARDY FLOWERS.

There were several very fine displays of hardy perennial flowers, and together they constituted a bank of bold flowers that compared favourably with

those at any previous show at Shrewsbury. The 1st prize for a collection in which a frontage of 15 feet was allowed each exhibit, was won narrowly by Messrs. HARKNESS & SONS, Bedale, Yorks. In this group *Lilium auratum* and varieties of *L. speciosum* were grand, and a bold bunch of flowers of the scarlet variety of *Gladiolus*, Miss Beecher, was dazzling and extremely good. Many of the finest species of hardy flowers were represented, but it is impossible to refer to all of them. Mr. M. PRITCHARD, Christchurch Nurseries, Hants, was 2nd, and included a capital bunch of *Crimum Powellii*; 3rd, Messrs. G. GIBSON & Co., Leeming Bar, Bedale.

An excellent collection of twenty-four bunches of hardy flowers was shown by Miss HUMBERSTON, Newton Hall, Chester (gr., Mr. R. Wakefield), who won the 1st prize for twelve bunches. The 2nd prize in the larger class was won by Messrs. G. GIBSON & Co., Bedale, Yorks.

DAHLIAS.

There were Dahlias in abundance. The Cactus varieties showing to splendid advantage in a class for Cactus or Decorative varieties, in collections having frontages of 10 feet 6 inches. In the 1st prize exhibit from Messrs. W. B. ROWZ & SON, Worcester, a few *Adiantum Ferns*, and much *Gypsophila* were used to relieve the flowers, but in the 2nd prize collection from Mr. S. MORTIMER, Rowledge Nurseries, Farnham, Surrey, a different method of arrangement was adopted, and in place of the *Ferns* and *Gypsophila* a little *Dahlia* foliage was used with less confusing effect. In each case the flowers were good. Messrs. KEYNES, WILLIAMS & Co., Salisbury, were 3rd.

The following class was of similar importance to the last one, the spaces and prizes being the same, but any varieties of Dahlias were permissible. In this case the 1st prize was won by a Cardiff exhibitor, Mr. Wm. TRESEDER, of that town, who showed exceedingly well, having the show, decorative, Cactus, and single varieties effectively displayed in Bamboo pillars and in other receptacles that afforded variety and effect. The flowers were very good also. 2nd, Messrs. KEYNES, WILLIAMS & Co. 3rd, Messrs. JONES & SON, Shrewsbury.

CARNATIONS.

The best display of cut Carnations was made by Mr. A. F. DUTTON, Bexley Heath, Kent, who had not only excellent flowers, but staged them to the best effect possible. 2nd, Messrs. M. CAMPBELL & SON, High Blantyre, N.B. 3rd, W. A. WATTS, Esq., Bronwylla, St. Asaph.

There were very beautiful florists' exhibits. Messrs. JENKINSON & SON, Newcastle-under-Lyme, won 1st prize for brides' and bridesmaids' bouquets; Messrs. PERKINS & SON, Coventry, were 2nd in these classes, but 1st for a featherweight bouquet.

VEGETABLES.

So considerable is the Vegetable department, that it makes an exhibition of itself. There are no fewer than nine collection classes, and some thirty lesser ones, all producing strong competition. The average quality was very good, but some things stood out with remarkable excellence.

Messrs. Sutton & Sons' Prizes.—These were six, ranging from £10 to £1, the 1st being taken by that strong exhibitor Mr. J. Gibson, gr. to R. W. HUDSON, Esq., Great Marlow. He had, quite superb throughout, *Alisa Craig Onions*, *Best-of-All Runner Beans*, *Perfection Tomatoes*, *Prizetaker Leeks*, *Solid White Celery*, *Mammoth Cauliflowers*, *Windsor Castle Potatoes*, *Gladstone Peas*, and *Red Intermediate Carrots*. Mr. E. Beckett, gr. to Lord ALDENHAM, Elstree, was 2nd, having very fine *Celery*, *Runner Beans*, *Peas*, *Onions*, *Tomatoes*, all of similar varieties. Mr. Ashton (gr. to the Earl of LATHOM, Ormskirk) was 3rd; and Mr. C. Wilkins (gr. to C. F. K. MAINWARING, Esq., Ellesmere), 4th.

In Messrs. Jas. Carter & Co's Class, also for nine dishes, Mr. BECKETT was a good 1st, having *Model Telephone Peas*, *Duke of York Tomatoes*, *Windsor Castle Potatoes*, *Holborn Model Leeks*, *Elephant Runner Beans*, *Perfection Carrots*, *Solid Ivory Celery*, and *Giant Cauliflowers*. Second came Mr. D. Gibson (gr. to Mrs. JOHNSTONE, Kingston-on-Thames), with excellent exhibits. Mr. ASHTON, was 3rd; and Mr. Read (gr. to the Earl of CARNARVON, Brethay Park), was 4th.

Messrs. R. Smith & Sons, Worcester, had a class also for nine dishes. Mr. M. A. HORSPOOL, Ruabon, came 1st with very superior products; *Leeks*, *Cauliflowers*, *Celery*, *Snowball Turnips*, *Potatoes*, *Gladstone Peas*, &c., were very good indeed. Mr. BECKETT was second with good exhibits; Mr. Bremwell, gr. to H. H. FRANCE HAYHURST, Esq., was 3rd, and Mr. G. DAWES, Pool Parva, 4th.

Messrs. Webb & Sons' prizes for eight dishes were six in number, and like Messrs. J. CARTER & Co's, commenced with £1. In this case Mr. ASHTON was 1st having fine *Cauliflowers*, good *Onions*, *Runner Beans*, *Renown Potatoes*, *Kaiser Peas*, *Tomatoes*, *Celery*, and *Leeks*; Mr. J. Bastin, gr. to Sir A. HENDERSON, M.P., Buscot Park, Berks, came 2nd with excellent products; Mr. H. Folkes, gr. to the Right Hon. J. J. HALSEY, Esq., M.P., Hempstead, Herts, coming 3rd, and Mr. C. Jones, gr. to the Misses HOWELL, Berriew, 4th.

The Society's class for twelve dishes again brought Messrs. J. GIBSON and E. BECKETT into competition, in this case twelve dishes being required. The first named was placed 1st, and the latter 2nd, the exhibits comprising kinds already generally mentioned.

Mr. E. Murrell had a class for eight dishes, in which Mr. M. C. Townsend, gr. to J. B. ACKROYD, Esq., Chalfont Park, Slough, was 1st staging good things; Mr. J. Birch, gr. to Captain BUTLER, Shelton Hall, was 2nd. In a class for six dishes by the same donor, Mr. J. Clowes, gr. to G. F. WARD, Esq., Hadnall Hall, was 1st; Mr. G. Abbott, gr. to Mrs. C. GUISE, Hadnall, coming 2nd.

Mr. R. Sydenham, as usual, offered sixty small money prizes in ten classes, the first being as under:—Two dishes of Peas, with Duke of Albany and The Gladstone, capital pods, Mr. HORSPOOL was 1st. With a dish of very fine Runner Beans, Mr. LEITH, gr. to Col. MIDDLETON ROSS, was 1st. Three Cauliflowers, Mr. J. READ, Six Carrots, Mr. A. FOLKES, handsome New Intermediate. Six Parsnips, Mr. LEITH, with very fine White Hollow Crown. Eight Onions, Mr. LEITH, with good Ailsa Craig. Dish of Tomatoes, Mr. F. Clarke, gr. to M. FIRTH, Esq., Leicester. Six Turnips, Mr. HORSPOOL, small but very perfect Snowball. Three Celery, Mr. FOLKES, with good Standard Bearer. Two dishes of Potatoes, Mr. E. Walker, gr. to Sir W. HONEYMAN, Bt., Whitchurch, the varieties being Duke of York and Snowdrop—very handsome samples.

Messrs. Hewitt & Sons had a class for six dishes, Mr. READ being 1st, and Mr. WALKER, 2nd. There was great competition in the single dish, or other small classes, for prizes offered by the Society. Mr. H. Powell, gr. to C. T. HATHERLEY, Esq., Addlestone, Surrey, having the best Scarlet Runners; Mr. LEITH the most perfect dwarfs in Canadian Wonder; Mr. HORSPOOL the best Peas, with The Gladstone; Mr. A. Hall, gr. to J. C. WATERHOUSE, Esq., Prestbury, had handsome unnamed Cucumbers. Mr. J. JONES (gr. to Mrs. F. Need), the best Tomatoes, and Mr. ASHTON was first in a single dish of Potatoes with Ideal, and the same with two dishes having very handsome Sir J. Llewellyn and Duke of York. In the Cottagers' Classes there was a remarkable competition, quality, as usual, ruling high. Some £150 are offered in prizes for vegetables at this great exhibition.

The result of the adding up of points gained by exhibitors in Mr. Sydenham's classes was that Mr. LEITH again wins the Silver Challenge Bowl, and it now becomes his property finally, this being the third win.

HONORARY EXHIBITS

have usually been numerous at Shrewsbury, but they seem to increase even now. A group of Hippeastrums in bloom in pots, shown by Captain HOLFORD, Westonbirt, Tetbury (gr. Mr. Chapman), was one of the most noteworthy when we remember the time of the year. It is said that the bulbs had been retarded as well as they could be in sheds, &c., with a north aspect. In any case, they were magnificent, and showed perfect cultivation, nor was the quality of the varieties less noteworthy.

Mr. JNO. FORBES, Hawick, N.B., had a very pretty exhibit of Pentstemons, herbaceous Phlox, double-flowered Stocks, single blooms of Carnations. All of these flowers being specialties of Mr. FORBES were of fine quality, the long spikes of large, brightly-coloured flowers of Pentstemons showing to capital effect.

Messrs. WM. BULL & SONS, New Plant Nurseries, King's Road, Chelsea, London, exhibited choice foliage plants and several good Nephentes (N. Chelsoni, N. x mixta, and N. Mastersiana), carrying a good number of pitchers. The foliage plants included Cordylines, Ferns, Codiaums, &c.

Roses were well shown by Mr. EDWIN MURRELL, Portland Nurseries, Shrewsbury. He had a very large exhibit of good blooms of a large number of popular varieties, among which a box of blooms of Mrs. John Laing was conspicuous.

Messrs. JAS. BACKHOUSE & SON, York, had a group of herbaceous perennial flowering plants in pots, and a pretty little rocky planted with Alpines.

Mr. W. B. CHILD, Edelweiss Nurseries, Acock's Green, Worcestershire, had a very large group of hardy flowers.

A very large exhibit of hardy flowers was shown by F. BONSKELL, Market Bosworth, which would seem to be sufficient to deplete any amateur's garden.

Messrs. DOBBIE & CO., Rothesay, N.B., staged a magnificent collection of Dahlia flowers in which the sections, exclusive of the show section, were well represented by good flowers. The firm had also about two dozen varieties of Potatoes in baskets.

Messrs. W. CUTBUSH & SON, Highgate Nurseries, London, N., exhibited a group of hardy flowers, including Nymphæas and a few alpine plants, &c.

The RANELAGH NURSERY CO., Royal Leamington Spa, had a large group of Asparagus myriocladus.

From Miss TALBOT, Margam Park, Port Talbot (gr. Mr. Milner), were shown fruits of nearly a dozen varieties of Oranges.

Messrs. LAING & MATHER, Kelso, N.B., exhibited cut flowers of varieties of Carnations.

Mr. J. H. WHITE, Worcester, had a large group of hardy flowers in great variety.

Mr. H. DEVERILL, Banbury, showed a group of hardy

flowers; and Mr. H. DEVERILL, Banbury, a collection of cut Roses and Zonal Pelargoniums.

Messrs. GUNN & SONS, Brookfield Nursery, Olton, Birmingham, had a collection of varieties of herbaceous Phlox.

Messrs. PRITCHARD & SONS, Shrewsbury, showed a nice group of Ferns in pots, also Codiaums.

Messrs. T. RIVERS & SON, Sawbridgeworth, Herts, started the Shropshire folk with one of their fine displays of orchard-house fruit-trees in pots. There were Vines, Apples, Plums, Peaches, Nectarines, Cherries, and several varieties of each. Some of the Peach-trees were 7 feet high, and laden with fruit. There were about fifty specimens. Upwards of a dozen fruits of the new Peach Peregrine were shown. This is described as a very valuable variety which the firm will distribute next year.

A very showy display of Zonal Pelargoniums was made by Mr. ALBERT MYERS, Sutton Lane Nurseries, Shrewsbury. Well cultivated plants and huge trusses of bloom of a large number of varieties were shown.

Messrs. DICKSONS, LTD., Chester, showed some nice hardy flowers in clean-looking specimens, also some stove and greenhouse plants in pots.

Messrs. SUTTON & SONS, Reading, showed Gloxinias, and a most interesting collection of crested Begonias. The display of Gloxinias was very large, and of the usual good quality of the firm.

An interesting display of varieties of hardy Heaths was made by Mr. T. R. HAYES, Keswick, Cumberland, also a very fine lot of Scolopendrium crispum majus.

Messrs. B. R. DAVIS & SONS, Yeovil, showed a fine lot of tuberous rooted Begonias.

Messrs. J. PEED & SONS, Norwood, London, exhibited a fine group of Caladiums.

Mr. JOHN RUSSELL, Richmond Nurseries, Surrey, showed a group of stove and greenhouse plants, including some finely cultivated plants.

Messrs. RD. SMITH & CO., Worcester, exhibited a large group of hardy flowers in the ground in the big "group" tent. It was a very interesting collection.

Messrs. BLACKMORE & LANGDON, Twerton Hill Nursery, near Bath, showed a magnificent group of Begonias.

Messrs. W. CLIBRAN & SON, Altrincham and Manchester, made a display of herbaceous plants and cut sprays of choice shrubs.

Mr. HENRY ECKFORD, Wem, Shropshire, showed a glorious group of Sweet Pea flowers of their latest and best novelties, including the remarkable Scarlet Gem and others.

Mr. F. M. BRADLEY, Peterboro', showed a collection of Carnation blooms; Messrs. W. & J. BROWN, Peterboro', Carnation and Pelargonium blooms; Messrs. JARMAN & CO., Chard, had a large collection of Dahlias, and vegetable roots; Mr. VINCENT SLADE, Staplegrave Nurseries, Taunton, Somerset, flowers of Zonal Pelargoniums.

HOBBIES LIMITED, Dereham, Norfolk, exhibited an immense display of Roses, Dahlias, &c.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, King's Road, Chelsea, had a very fine plant of the new Senecio clivorum, from Central China, previously described and figured in these pages, and a good plant of Astilbe Davidii, also illustrated in the *Gardeners' Chronicle*.

Messrs. R. HARTLAND & SON, Cork, exhibited a quantity of Begonia blooms, Gladiolus, and Zonal Pelargonium blooms.

A display of "St. Brigid" Anemones, was made by Messrs. REAMSBOTTOM & CO., Geashill, King's County. It is very late for these flowers.

Mr. AMOS PERRY, Hardy Plant Farm, Winchmore Hill, London, N., exhibited about forty varieties of bog and water grasses and plants, and flowers of forty varieties of Nymphæa—a very interesting exhibit.

Messrs. JONES & SON, Shrewsbury, exhibited a collection of Sweet Peas.

Mr. ROBERT BOLTON, Warton, Carnforth, exhibited a large collection of Sweet Peas. Mr. W. L. PATTISON, Cherry Orchard, Shrewsbury, flowers of varieties of Viola. Mr. W. ANGUS, Penicuik Gardens, N.B., flowers of a variety of Chrysanthemum maximum named "King Edward"—the flowers were especially large and bold. Mr. JOHN DERBYSHIRE, Ashley Road, Hale, Altrincham, showed a nice lot of Sweet Peas.

Honorary Awards.

LARGE GOLD MEDALS.

Captain Holford, Westonbirt; Hobbies, Ltd., Dereham; Sutton & Sons, Reading; Dobbie & Co., Rothesay; T. Rivers & Sons, Sawbridgeworth.

SMALL GOLD MEDALS.

R. Smith & Co., Worcester; J. Peed & Sons, West Norwood, London, S.E.; Dicksons, Ltd., Chester; A. Perry, Winchmore Hill, London; Jarman & Co., Chard, Somerset; Jno. Russell, Richmond, London; W. B. Childe, Acock's Green, Birmingham; Blackmore & Langdon, Twerton Hill, Bath; A. Myers, Sutton Lane Nurseries, Shrewsbury; Ranelagh Nursery Co., Leamington; Ed. Murrell, Shrewsbury.

SILVER-GILT MEDALS.

Hewitt & Co., Solihull, Birmingham; Henry Eckford, Wem; Robert Bolton, Carnforth; W. Cutbush &

Son, Highgate, London; W. Clibran & Son, Altrincham; Reamsbottom & Co., King's County, Ireland; B. R. Davis & Sons, Yeovil; John Forbes, Hawick, N.B.; H. Deverill, Banbury; F. Bonskell, Market Bosworth; Nuneaton; T. R. Hayes, Keswick, Cumberland; Jones & Sons, Shrewsbury; J. H. White, Worcester; Pritchard & Sons, Shrewsbury.

SILVER MEDALS.

W. Bull & Sons, Chelsea, London; W. & J. Brown, Peterborough; Vincent Slade, Taunton; Jas. Backhouse & Son, Ltd., York; R. Milnes, Port Talbot; Laing and Mather, Kelso; W. L. Pattison, Shrewsbury; Jno. Derbyshire, Hale; F. M. Bradley, Peterborough; R. Hartland & Son, Cork; Gunn & Sons, Olton.

BISHOP'S STORTFORD HORTICULTURAL.

AUGUST 12.—The thirty-fourth annual exhibition was held at The Grange, the residence of John Barker, Esq., and was a great success in every way. The large plant classes constituted the only weak feature of the show. Cut-flowers were very fine, and the competition good. Fruit was excellent, and vegetables also; indeed, by the exhibits staged, it would appear that there has been less injury to crops in this part of the country than in some others. The table decorations, for which a large tent was allotted, brought forth thirty-one lady exhibitors.

The groups of plants were, in some instances, very fair productions, and Mr. Harrison, gr. to Colonel ARCHER HOUBLON, Hallingbury Place, was 1st; Mr. W. Clark, gr. to Mr. G. GOLD, Stanstead, 2nd.

Stove and Greenhouse Plants in Flower did not make a strong class, though nice plants were staged. Mr. G. Beech, gr. to JOHN BARKER, Esq., being 1st; and Mr. Brown, gr. to W. HOLLAND, Esq., was 2nd. For twelve plants grown in 8 inch pots, Mr. BEECH was a good 1st, there being six in bloom, and the others were foliage plants. The same exhibitor was an easy 1st for Ferns, showing well-grown plants.

Begonias were scarcely so large or so good as in former years. Mrs. A. TAYLOR was 1st for an exhibit consisting of single flowered plants, and Mr. W. SMITH was 2nd, with very fine doubles, which unfortunately were not at their best. Mrs. A. TAYLOR was also 1st for Begonias in hanging baskets, and some nicely-grown plants were staged; Mr. F. TILBY was 2nd. Mr. SMITH had the finest Gloxinias, and Mr. BARKER the best Ivy-leaved Pelargoniums; Messrs. TAYLOR and BARKER the best double flowered zonals; and Mr. SMITH and Mr. BARKER the best single flowered zonal Pelargoniums.

Fuchsias were not numerous. Mr. Beech, gr. to Mr. BARKER, had the best lot of plants, and though small in size of plant they were well flowered. Plants for table decoration were well done, and J. BALFOUR, Esq. (gr. Mr. A. Jeffries), had the best, and Mr. BEECH came 2nd.

Cut-flowers occupied a large space, and were exceptionally fine in most of the classes. For Sweet Peas there were three classes, and those of Messrs. ECKFORD were very fine. The best collection of Sweet Peas for the Eckford prizes made a grand display, Mr. HARE, Miss NEWMAN, and Mr. BEECH being the fortunate winners, being 1st, 2nd, and 3rd in the order of their names. For Messrs. McMullen's prizes for the best collection, Messrs. BARKER, EDWARDS, and SMITH were the winners in the order named. For hardy flowers, Miss NEWMAN, Messrs. GOLD, and Mrs. W. GEE were successful. Messrs. PAUL & SON, Cheshunt, had a remarkably fine exhibit of herbaceous perennials as cut flowers; Mr. A. A. HARE was 2nd with smaller bunches. Dahlias were a strong class, and Mr. BARKER, Mrs. TAYLOR, and Mrs. GOLD had the best stands. Roses were not plentiful; Messrs. BARKER, Mr. A. TAYLOR, and Mr. W. G. GOLD had the best blooms.

Fruit, especially that from indoors, was well staged, the baskets of mixed fruit shown by Mr. BARKER and Col. HOUBLON being very fine; the last-named was 1st; Mr. BARKER, 2nd.

Mr. A. JEFFRIES had the best Hamburgh Grapes, also the best Black in any other class, staging fine bunches; and Mr. HARRISON, 2nd, the last-named having very fine Muscats.

Some fine Peaches were staged, Sir JAMES BLYTH, Bt., having the best, and Col. ARCHER HOUBLON was 2nd. The best Nectarines came from Sir J. BLYTH (splendid fruits), Col. HOUBLON, and Mr. C. H. DAVIS. There were two very fine collections of fruit, Grapes and Peaches being very good; Col. A. HOUBLON being 1st, and Mr. J. BARKER a close 2nd.

Vegetables were excellent, the 1st prize being well won by Mr. A. JEFFRIES, he having fine Alderman Peas, good Tomatoes, Excelsior Onions, and Syon House Potatoes; and 2nd, Mr. BEECH, with good dishes.

Table decorations were most interesting. Miss A. F. HARWOOD, Colchester, was 1st, having Tea Roses; 2nd, Miss CAMP, Sawbridgeworth, with Clarkia, and a free use of Jasminum officinale; Miss BLYTH being a close 3rd with Sweet Peas.

Messrs. RIVERS, Sawbridgeworth, showed fruit-trees in pots, receiving a First class Certificate for new Peach

Peregrine; Messrs. PAUL, Cheshunt, had a very fine stand of herbaceous flowers; Messrs. WARR, Feltham, a good collection of hardy flowers; and Mr. A. PERRY, Winchmore Hill, hardy flowers and choice Water-Lilies. Mr. S. MORTIMER, Farnham, exhibited a very fine lot of Dahlias, mostly Cactus varieties, and a new one, Queen Alexandra, for which a First-class Certificate was awarded. G. W.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

AUGUST 14.—The members of the Committee present were Messrs. Gratrix, MacNab, Stevens, Holmes, Parker, Rogers, Keeling, Smith, Cowan, and Weathers (Hon. Sec.). There was a capital display of plants for the month of August.

S. GRATRIX, Esq. (gr., Mr. Cypher), staged a nice group of plants, mainly hybrid Cypripediums. Cypripedium × Lord Derby, Sander's var., received a First-class Certificate (it is a fine handsome flower with very broad petals having a light ground and densely spotted), Cattleya × Pittiana, a fine cross between C. Schofieldiana × C. Rex, received an Award of Merit. Silver Medal for group.

E. ROGERSON, Esq. (gr., Mr. Blomeley), staged a good group, in which were some well-flowered plants of Cattleya Harrisonae, Cypripedium × Rachel (a cross between C. Curtisii × Charleworth), received an Award of Merit. The group was awarded a Silver Medal.

Messrs. CHARLESWORTH, Bradford, had a beautiful collection of plants, which obtained a Silver gilt Medal. Lælio-Cattleya × Adolphus, var. superba (L. cinabarina × C. Acklandiae), received an Award of Merit; while Cattleya × Iris, var. Fascinator, was voted a First-class Certificate.

C. PARKER, Esq., Ashton-on-Ribble, again exhibited Cypripedium × Cassandra. Mr. A. J. KEELING staged a small group of plants, including Cypripedes and Masdevallias (Vote of Thanks). Messrs. SANDER & SONS, St. Albans, had a good group of Lælio-Cattleyas, &c., for which a Bronze Medal was awarded. Messrs. COWAN & Co., Ltd., received a Vote of Thanks for a small group. P. W.

IRISH GARDENERS' ASSOCIATION.

AUGUST 12.—The second excursion of the season organised by this Society took place on the above date to Carton, the seat of the Duke of Leinster, at Maynooth. Leaving Dublin at noon, the members were met on their arrival at Maynooth by Mr. Black (under whose supervision the gardens are), and conducted over the demesne, extending to about a thousand acres. There is much to interest devotees of flora and sylvia at this historic seat. Many fine Conifers are here, and open grassy woodland glades afford delightful prospects. Hardy herbaceous plants are grown in enormous quantities, and the variety and extent of the collection were the subject of much comment.

Flowering shrubs, too, are a feature, and include many interesting and rare sorts. The ornamental waters, the pergola, and the various glasshouses all contributed to the enjoyment and instruction of the visitors. Maynooth College was visited; nor were the various objects of antiquarian interest which the neighbourhood affords neglected.

Obituary.

WALTER JARMAN.—We regret to announce the death, in his fifty-fifth year, of Mr. Walter Jarman, head gardener to Mr. Brassey, Preston Hall, Aylesford, Kent, which took place on Monday evening, the 10th inst. For a period of fourteen years he was head gardener to H. Herepath, Esq., Westwood House, near Margate, where he carried out the re-modelling and planting of the garden. After the death of his employer, he entered the service of Joseph Farmer, Esq., Chapel Hill House, Margate, where he made many alterations and superintended the erection of the extensive glasshouses. Here he remained for seven years, and entered the service of Mr. Brassey about twelve years ago.

Mr. Jarman assisted in starting the Isle of Thanet Chrysanthemum Show, and was an exhibitor at most of the leading shows in East Kent, and during his stay at Westwood House, took many of the leading honours at the Crystal Palace fruit shows for Grapes. He was Secretary of the Aylesford Allotment Society.

The deceased had been ailing for about five months, and a few weeks ago it was discovered

that he was suffering from cancer. He leaves a wife and nine children to mourn his loss, the youngest being eight years old.

MRS. HARRY CANNELL.—We regret to hear of the sad trouble that has befallen Mr. Harry Cannell, second son of Mr. Henry Cannell, of Swanley, by the death of his wife, in her thirtieth year, on the 17th inst.



METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period August 9 to August 15, 1903. Height above sea-level 24 feet.

1903.	AUGUST 9 TO AUGUST 15.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERA- TURE OF THE SOIL at 9 A.M.				LOWEST TEMPERATURE ON GRASS.
			At 9 A.M.		DAY.	NIGHT.	RAINFALL.	At 1-foot deep.	At 2-foot deep.	At 4-foot deep.	
			Dry Bulb.	Wet Bulb.							
					deg.	deg.					
SUN. 9	W.S.W.	64.7	57.3	71.5	54.7	0.17	63.8	61.3	58.4	49.3	
MON. 10	W.S.W.	61.5	56.2	66.4	53.5	0.38	63.7	61.7	58.5	50.9	
TUES. 11	W.S.W.	58.0	55.0	64.4	44.7	0.60	62.0	61.7	58.7	37.3	
WED. 12	W.N.W.	58.7	58.4	70.0	54.6	...	61.6	61.3	58.8	53.2	
THU. 13	W.S.W.	62.3	57.0	77.7	47.3	0.11	62.3	61.3	58.9	39.8	
FRI. 14	S.E.	60.2	59.5	70.2	51.8	0.17	63.5	61.8	58.9	45.0	
SAT. 15	W.S.W.	61.7	55.5	64.4	57.0	...	62.6	61.8	58.9	50.9	
MEANS		...	61.0	57.0	69.2	51.9	1.43	62.8	61.6	58.7	46.6

Remarks.—Dull weather, with cold, gusty winds, have been the prevailing feature of the past week, with an occasional burst of bright sunshine, and rain on five days.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Aug. 15, is furnished from the Meteorological Office:—

“The weather during this week was of an exceedingly unsettled character, steady rains or heavy passing showers alternating with comparatively fair intervals. Thunderstorms occurred in most parts of the kingdom, and in some localities were accompanied by hail.

“The temperature just equalled the normal height in England, E., but was 1° or 2° below it in all other districts. The highest of the maxima (registered either on the 9th or 13th) ranged from 74° in the Midland Counties and England, S., and S.W., and 73° in Scotland, N., to 69° in the other Scotch districts, and to 68° over Ireland. The lowest of the minima, which were recorded on somewhat irregular dates, varied between 51° in the Channel Islands and 38° in Scotland, N., and Ireland, N. In the other districts the lowest readings were a little below or slightly above 40°.

“The rainfall exceeded the mean in all districts excepting England, N.E., the excess being either considerable or very large. Several places again had more than an inch in twenty-four hours. At Gelderton on Tuesday there was as much as 1.72 inch, and at Markree on Friday 2.04 inches.

“The bright sunshine was deficient over the kingdom as a whole, but slightly in excess in a few localities. The percentage of the possible duration ranged from 52 in the Channel Islands and 43 in England, S.W., to 26 in Scotland, E., 25 in Ireland, N., and 24 in Scotland, N.”

THE WEATHER IN WEST HERTS.

Cold, Wet and Gloomy.—The present cold, wet and gloomy spell has now lasted over five weeks. During that period on only three days has the temperature in the thermometer-screen exceeded the average, while on as many as seven nights the exposed thermometer has fallen to within 8° of the freezing-point. The ground is now 1° colder at 2 feet deep, and 2° colder at 1 foot deep than is seasonable. Throughout the past

five weeks rain has fallen on all but eleven days, and to the total depth of 5½ inches—equivalent to a watering on each square yard of surface in my garden of 24½ gallons. Of that amount about 13½ gallons have passed through the bare soil percolation gauge, and nearly 3 gallons through the gauge covered with short grass—the latter being a very unusual circumstance at this season. On two days the sun shone brightly for about ten and a half hours a day, but during the rest of the week the record of sunshine proved very poor averaging but little more than three hours a day. The winds, although variable, were, taking the week as a whole, of more than average strength; while the atmosphere in the middle of the day was again humid for a summer month. E. M., Berkhamsted, August 18, 1903.

MARKETS.

COVENT GARDEN, August 20.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

PLANTS IN POTS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Acers, each	...	20-26	Fuchsias, p. doz.	...	30-60
Adiantums, doz.	...	40-80	Hydrangeas, doz.	...	80-240
Aralias, per doz.	...	40-80	Lilium longiflorum, per doz.	...	60-120
Arbor Vitæ, per dozen	...	90-180	— lanceifolium, per dozen	...	60-120
Aspidistras, doz.	...	180-360	Lycopodiums, p. doz.	...	30-40
Asters, per doz.	...	30-40	— do.	...	30-40
Aucubas, per doz.	...	40-80	— do.	...	30-40
Campanulas, doz.	...	40-60	— do.	...	30-40
Coleuses, per doz.	...	40-50	— do.	...	30-40
Coreopsis, dozen	...	40-60	— do.	...	30-40
Crassulas, dozen	...	80-120	— do.	...	30-40
Crotons, per doz.	...	120-240	— do.	...	30-40
Dracenas, variety, dozen	...	120-480	— do.	...	30-40
Eunonymus, vars., per dozen	...	40-60	— do.	...	30-40
Ferns in var., per dozen	...	40-300	— do.	...	30-40
— Japanese balls, &c., each	...	10-18	— do.	...	30-40
Ficus elastica, per dozen	...	90-240	— do.	...	30-40

CUT FLOWERS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Alstroemeria, doz. bunches	...	40-60	Lilium auratum, per bunch	...	10-20
Asters, doz. bun.	...	20-40	Lily of the Valley, p. doz. bunches	...	60-180
Azaleas, doz. bun.	...	20-40	Lupins, doz. bun.	...	30-40
Callas, per dozen	...	20-30	Malva, doz. bun.	...	40-60
Carnations, per doz. bunches	...	20-120	Marguerites, yellow, doz. bunch.	...	10-20
— Malmesons, doz.	...	60-120	Mignonette, doz.	...	20-30
Coreopsis, dozen bunches	...	10-20	Montbretias, per dozen bunches	...	40-60
Dahlias, per doz. bunches	...	20-40	Ochids: Cattleya, dozen blooms	...	60-120
Eucharis, per doz.	...	18-20	Pellargoniums, zonal, dozen bunches	...	40-60
Ferns, Asparagus, per bunch	...	10-26	Phlox, per dozen bunches	...	30-40
— French, per doz. bunches	...	04-06	Poppies, Iceland, p. doz. bunches	...	06-10
— Maidenhair, doz. bunches	...	40-60	Roses, Mermet, per doz.	...	10-20
Gaillardia, per doz.	...	10-20	— various, per bunch	...	02-16
Gardenias, p. box	...	16-20	— red, 12 bnchs.	...	20-60
Gladiolus, White, doz. bunches	...	20-30	— white, bunch	...	06-20
— Breckleyensis, per bunch	...	06-10	— pink, bunch	...	04-16
— various, bnch	...	06-10	Smilax, doz. trails	...	16-26
Gypsophila, bun.	...	02-04	Stephanotis, per dozen	...	10-16
Liliums, longiflorum, per bunch	...	10-20	Stocks, per dozen bunches	...	20-40
— lanceifolium, per bunch	...	16-20	Sweet Peas, per dozen bunches	...	10-30
— candidum, per bunch	...	10-20	Tuberose, strong, per bunch	...	09-10
— rubrum, bnch.	...	10-20	— per dozen	...	02-03

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, home-grown, per half bushel	...	26-40	Grapes, Muscats, B., per lb.	...	10-16
Apricots, per doz.	...	16-30	Lemons, per case	...	60-120
Bananas, bunch.	...	80-130	Melons, each	...	10-26
— loose, dozen	...	10-16	Nectarines, A., per dozen	...	120-180
Figs, per dozen	...	10-30	— B., per doz.	...	30-60
Filberts, per lb.	...	06-10	Oranges, per case	...	7-13
Grapes, Alicante, per lb.	...	08-14	Peaches, A., per dozen	...	70-120
— Gros Maroc, lb.	...	10-16	— B., per dozen	...	16-40
— Hamburg, A., per lb.	...	16-20	Pears, half bushel	...	50-60
— B., per lb.	...	08-10	— Crate, 24	...	60-60
— Muscats, A., lb.	...	20-30	Pines, each	...	26-46
			Plums, per sieve	...	60-100

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, Globe, per dozen	2 0	3 0	Mint, per dozen bunches	1 0	2 0
Beans, dwarf, per sieve	2 6	3 0	Mushrooms, house, per lb.	0 10	1 0
— broad, bush, 0 9	1 0		Onions, per case	4 0	5 0
— Scarlet Runners, p. bushel	4 6	7 0	— per bag	3 0	3 6
Beetroots, per doz. bunches	2 0	3 0	— green, per dozen	2 0	2 6
Cabbages, tally...	3 0	5 0	Parsley, per doz. bunches	1 0	1 6
Carrots, new, per dozen	0 9	1 3	— sieve	0 9	1 0
— per bag	3 0	—	Peas, per bag	4 0	7 0
Cauliflowers, per dozen	3 0	4 0	— per bushel	3 0	4 6
Celery, per dozen bunches	8 0	10 0	Potatoes, per ton	60 0	100 0
Cress, per dozen punnets	1 3	—	Radishes, per dozen bunches	0 6	0 9
Cucumbers, doz.	1 6	2 3	Salad, small, punnets, per doz.	1 3	—
Endive, per doz.	1 6	—	Spinach, pr. sieve	1 3	1 6
Garlic, per lb.	0 3	—	Tomatoes, Channel Islands, per lb.	0 2	0 2 1/2
Horseradish, foreign, p. bunch	1 9	2 6	— English, per 12 lb.	2 0	3 0
Leeks, per dozen bunches	1 6	2 0	Turnips, new, per doz. bunches	2 0	3 0
Lettuces, Cabbage, per dozen	0 6	0 9	— per bag	3 0	—
Lettuce, Cos, per score	0 6	6	Vegetable Marrows, per tally	1 6	2 6
			Watercress, per dozen bunches	0 4	0 6

REMARKS.—Soft fruits are now over for the season. Vegetable Marrows fetch very low prices; Aubergines, per doz. 2s.; Corn Cobs, per doz. 2s., 2s. 6d.; out-of-door Mushrooms sell per half-bushel at 1s., 1s. 6d. Most of the Plums and Pears now seen are foreign. Tomatoes are very plentiful and low in price. Foreign Pears are Duchesse, Beurre Clairgeau, and Williams Bon Chrétien. Our home grown Plums are Orleans, Prince of Wales, Czar, Victoria, &c. The bag Peas are Yorkshire grown.

POTATOS.

Home-grown, 70s. to 100s. per ton. John Bath, 32 & 34, Wellington Street, Covent Garden.

FRUITS AND VEGETABLES.

GLASGOW, August 17.—The following are the averages of the prices during the past week:—Apples, Lisbon, 12s. to 15s. per case; Oranges, Naples, 9s. to 12s. per box; Lemons, 6s. 6d. to 10s. per box, and 10s. to 14s. per case; Melons, 6s. 6d. to 9s. per case; Grapes, English, 1s. 3d. to 2s. 6d. per lb.; do., Denia, green, 5s. to 7s. per barrel; do., black, 11s. to 13s. per barrel; Strawberries, 4d. to 10d. per lb.; Plums, French, 2d. to 6d. do.; do. Gages, 7d. to 9d. do.; Irish Warrington Gooseberries (rather over-ripe for preserving), 24s. per cwt.; Pears, 2s. 6d. to 3s. 13d. per sieve; Tomatoes, 5d. to 8d. per lb.; Mushrooms, 1s. to 1s. 6d. do.; Onions, 3s. 6d. to 5s. per case; White do., 3s. 6d. per bag; do., Eschalots, 4s. do.; Carrots, 8s. per hamper.

LIVERPOOL, August 17.—The following are the average of the current prices during the past week—prices varying according to supply:—Wholesale Vegetable Market.—Potatoes, per cwt., Early Regents, 2s. 6d. to 3s. 6d.; Kidneys, 4s. to 5s.; British Queen, 3s. to 4s.; Turnips, 8d. to 10d. per 12 bunches; Swedes, 3s. to 3s. 3d. per cwt.; Carrots, 6d. to 10d. per dozen bunches; Onions, foreign, 4s. 8d. to 5s. per cwt.; Parsley, 4d. to 6d. per dozen bunches; Lettuces, 6d. to 8d. per dozen; Cucumbers, 1s. 6d. to 2s. 6d. do.; Cauliflowers, 1s. to 2s. do.; Cabbages, 6d. to 1s. do.; Celery, 1s. 9d. to 2s. 3d. do.; Peas, 3s. to 4s. 6d. per hamper; Beans 2s. to 2s. 3d. do. *St. John's*—Potatoes, 1s. to 1s. 4d. per peck; Peas, 1s. to 1s. 6d. do.; Cucumbers, 3d. to 6d. each; Gooseberries, 3d. to 4d. per lb.; Currants, Red, 6d. do.; Peaches, 4d. to 6d. each; Filberts, 8d. per lb.; Grapes, English, 1s. 6d. to 2s. 6d. do.; do. foreign, 6d. to 8d. do.; Pines, foreign, 4s. 6d. to 6s. each; Mushrooms, 10d. to 1s. per lb. *Birkenhead*:—Potatoes, 1s. per peck; Peas, 10d. to 1s. 4d. per peck; Cucumbers, 2d. to 4d. each; Currants, Red, 6d. to 8d. per lb.; Cherries, 6d. to 8d. do.; Gooseberries, 4d. do.; Grapes, English, 1s. 6d. to 4s. do.; do. foreign, 6d. to 8d. do.; Tomatoes, English, 6d. to 8d. do.; Mushrooms, French, 6d. to 1s. do.; Filberts, 8d. do.

CORN.

AVERAGE PRICES OF British Corn (per imperial qr.), for the week ending August 15, 1903, and for the corresponding period of 1902, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1902.	1903.	Difference.
	s. d.	s. d.	s. d.
Wheat	31 7	29 11	— 1 8
Barley	24 9	21 3	— 3 6
Oats	22 2	18 10	— 3 4

ANSWERS TO CORRESPONDENTS.

APPLES AND PEARS: G. M. W. Yes; the unfolding leaf serves to distinguish them. The Apple-leaf, as you say, unrolls on one side; the Pear on both sides; but we never heard that the name "Pear" had anything to do with that circumstance. Is a pun intended? Nor can we see the association with the "evening shadows."

APPLE GRUB: H. J. The grub or larva of the Leopard moth, *Zeuzera aesculi*. You can hook out the creature with a curved wire, or inject some kerosene into the hole.

BOILER FOR HEATING GLASS STRUCTURES: Perplexed. Choose a sectional boiler (see our issue for March 7 of the present year, p. 156), capable of heating, without using an excessive amount of fuel in severe weather or making the pipes unduly hot, six rows of 4-inch pipes in the vinery and stove, two flow pipes and one return pipe in the greenhouse, and one flow and one return in the pits. The vinery being a lean-to, should have four of the pipes running along the front and two just about the middle of the house, and raised about 1 foot off the border. If the vinery stands apart from the other houses, the pipes may be carried round the ends as well as the front, and in any case that would be advisable for unconnected houses, forcing or other.

BOOKS: Cornubian. See the book reviewed in our columns last week, p. 124, *Students' Text-Book of Botany*, by Vines (Sonnenschein).—C. & C. *Vegetable Physiology*, Reynolds Green (London: Churchill); *Lectures on the Physiology of Plants*, S. H. Vines (London, Clay & Son), and many smaller books.—J. C. *Table Decorations*. We know no recent work on this subject. Miss Hassard's, was a good one in its day, but is out of print, besides being rather old-fashioned. If you know the German language, there are several that might serve your purpose.—*Constant Reader*. Obtain of Mr. Upcott Gill, Bazaar Office, Drury Lane, *Popular Bulb Culture*, by W. D. Drury; price 1s.

CORRECTION: Mr. Brotherston writes to express his regret that a mistake should have occurred in his article relating to an alleged statement of Mr. Britten's. "Galium verum," and not "G. Aparine," appears in both the works named.

CORRECTION: "PLYMOUTH PINE."—In the report of the meeting of the Royal Scottish Arboricultural Society, "Plymouth Pine" should be read as "Weymouth Pine"—P. Strobos.

FUNGUS ON HOLLYHOCKS: J. P. Bordeaux-mixture or weak Condry's-fluid are useful, but you would do well to destroy by burning every plant, and to abstain from the cultivation of Hollyhocks for a few years, or rely on seedlings raised annually, burning them when they have bloomed or become a prey to the parasite.

GRASSHOPPER: W. S. The common green grasshopper. It does not exist in sufficient numbers to do much mischief.

NAMES OF FRUITS: One Peach in a chip box, no letter accompanying it. Smashed beyond recognition.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—C. B., *Braintree*. *Catasetum Russellianum*.—J. D. B., 1, *Rhododendron ponticum variegatum*; 2, *Buddleia variabilis*; 3, *Metrosideros*; 4, *Kennedyia Marryattiae*; 5, not recognised, send when in flower; 6, *Cotyledon*.—W. B. *Campanula isophylla*, white variety.—T. B. *Cyrtanthera magnifica*; 2, *Farfugium grande variegatum*; 3, *Polypodium aureum*.—E. P. & Co. The so-called Calvary Clover, *Medicago echinus*.—A. Bullard. 1, *Pontederia crassipes*; 2, *Artemisia vulgaris*; 3, *Rubus odoratus* (purple-flowering Raspberry); 4, *Rosa rubrifolia*; 5, *Campanula pulla* var. *alba*; 6, *Desprez* with yellow flowers; 7, *Geranium Endressii*; 8, *Campanula pusilla* (syn. *pumila*).—A. T., *Catford*. Why send such

wretched specimens? 1, *Choisya ternata*; 2, *Viburnum Opulus*; 3, not recognised; 4, probably *Staphylea pinnata*; 5, *Cupressus Lawsoniana lutea*; 6, *Buddleia Lindleyana*.—F. McD. 1, *Centranthus ruber*; 2, *Sedum carneum variegatum*; 3, a *Magnolia*, no flowers; 4, a *Cornus*, no flowers.—W. W. 1, *Lysimachia clethroides*; 2, *Saponaria officinalis*; 3, *Maranta*; 4, *Cassinia fulvida*; 5, *Salix rosmarinifolia*; 6, *Pyrus Aria*.—J. McK. An ordinary variety of *Cattleya Warscewiczii*, often called *C. gigas* in gardens.—*Northampton* (no letter). 1, *Hæmanthus puniceus*; 2, *Bignonia radicans*; 3, *Agrostemma coronaria*.—*Hants*. *Cattleya intermedia*, but with peculiar features.—A. B. *Erigeron canadensis*, *Lycopsis arvensis*.—J. B. *Pyrus Aria*, and an *Amelanchier*.—F. M. W. We do not know the Rose.—*Orchid*. 1, *Erica arborea*; 2, *Menziesia polifolia*; 3, *Menziesia polifolia alba*; 4, *Cyperus laxus*.—*Buxted*. 1, *Cattleya Loddigesii*; 2, *Oncidium flexuosum*; 3, *Selaginella casia*; 4, *Selaginella Wildenovii*; 5, *Adiantum formosum*; 6, *Diplazium alternifolium*.—*Hortus*. 1, *Lomatia silaifolia*; 3, *Centradenia rosea*; 3, *Hoffmannia Ghiesbreghtii variegata*; 4, not recognised.—G. S. 1, *Clerodendrum trichotomum*; 2, perhaps *Pawlonia imperialis*; 3, *Eugenia Ugni*; 4, perhaps *Centaurea macrocephala* (send when in flower); 5, *Eryngium alpinum*; 6, *Eryngium amethystinum*.—W. W. 1, *Codiaeum irregulare*; 2, C. *Weissmanni*; 3, C. *Johannis*; 4, C. *longifolium*; 5, C. *trilobum*; 6, C. *interruptum*.—C. A. V. 1, *Thuyopsis dolabrata*; 2, *Buxus communis*; 3, *Piptanthus nepalensis*; 4, *Retinospora filifera*; 5, *Abies Pinsapo*; 6, *Cryptomeria elegans*.—S. K., *Bungay*. *Hymenocallis littoralis*. *Hymenocallis* are generally called *Pancratium* in gardens.

MELON AND TOMATO FOLIAGE: J. A. B. The first-named is affected with the "spot" disease often mentioned in these pages in recent issues; and the second with *Peronospora Lycopersici*, against which you may, when first observed, use the Bordeaux-mixture with success.

PALM ROOTS: Nonsuch. The roots were quite withered. We cannot say what is the matter. Send better specimens properly packed.

PEACH: A. Bateman. Greatly damaged in transit, and we cannot identify the variety.

PEACH-LEAVES INJURED: L. M. Shot-hole fungus. See answer to W. Priest in our last issue.

POTATOS: Constant Reader. The brown spot is due to a Potato fungus, of which there are several. Spray with Bordeaux-mixture as often explained. The "early curl" is no doubt occasioned by cold.

PROLIFIED ROSES: S. Bernard. Very common. They are due to some change of growth occurring at a particular period from seasonal causes. You can do nothing to prevent it.

RATING OF GLASSHOUSES USED FOR TRADE PURPOSES: J. P. Land on which there are buildings, glass or otherwise, are rated higher than that on which there are no buildings. A few years ago the rates paid on such land were much lower. We would advise you to consult a solicitor.

SWEET PEAS: Will the correspondent who sent us last week a few new varieties of Sweet Peas kindly send his name and address?

THE FEEN BULLETIN: W. F. C., San Francisco. This is published quarterly by W. A. Clute, Binghamton, New York.

COMMUNICATIONS RECEIVED.—H. J. E., C. B.—S. P. (photos, many thanks; under consideration).—R. P. F.—W. E. G.—W. H. B. Dublin.—C. W. D.—A. B.—D. Jones, Hartsheath.—W. Fulford (too late for insertion).—C. Luker & Co.—R. J. A.—S. C.—A. F. U.—R. P. B.—J. R. J.—P. W.—W. B. H.—J. W. H.—E. S. R.—R. F. F. (pamphlet, with thanks).—G. W. F.—M. Daniel, Rennes.—J. D.—C. de C. Geneva.—R. Dawes.—R. P. B.—G. H.—R. D.—W. W. (too late, next week).—J. H.—C. L. & Co.—Edina—Orchid.

DIED.—ARCHIBALD McEWAN, on August 14, age sixty-seven years; for forty-six years outdoor foreman with Austin & McAslan, Glasgow. A Highland gentleman. G. M. W.



A GROUP OF DOUBLE-FLOWERING HOLLYHOCKS: FROM A PHOTOGRAPH BY F. MASON GOOD.



THE

Gardeners' Chronicle

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PAST AND FUTURE IN THE GARDEN.

AS the autumn approaches, the thoughtful gardener will take advantage of this more or less restful season in the garden to take stock of the results of his labours during the past season, and of the condition of the garden in the various departments under his charge. Improvements in the following year will be suggested by the failures and their causes in the past.

The year has now so far advanced that the gardener will soon be able to come to a conclusion as to the results he has or is likely to obtain in the various departments under his charge. A review may therefore be profitably taken of the season's work in the fruit department under glass, to ascertain whether the Vines have given us the return in quality and weight of fruit we had hoped for and anticipated from them. It may be that we have to decide on the replanting of a vinery in consequence of a failure through one cause or another. Other Vines may not have come up to our expectations, entailing perhaps the restriction and partial remaking of the border. It may be that the Peach-trees, the Cherries, the Figs, and other fruit-trees have shown signs of distress through age or in consequence of some adverse conditions. The present, then, is the time to

form conclusions as to what has been the cause of our disappointment, and to decide on the remedy.

There are few seasons in which some new fruits are not temptingly dangled before the grower's eyes, and few resist the temptation of trying one or more. It may be a Grape, a Peach, an Apple, a Melon, a Tomato, or what not. The time has now come when it is possible to form an estimate of their merit, and to decide whether they are to be retained for future supplies, or discarded.

It will soon be time to overhaul the glass structures as regards their condition as to repairs and painting. There is no time so well adapted for this work as the autumn, when the houses are empty. It is a seasonable time also for examining boilers, pipes, and valves, and for renewing and repairing them if needful. Then is also the most convenient time to inquire into the condition of the bothies—as to cleanliness and comfort, and especially to see that the bedrooms are provided with the necessary means for securing warmth and comfort in the winter.

In the hardy fruit department, some of the wall and other trees may have fallen into bad ways; notice must be taken of these, and provision made to improve their conditions.

The bush-fruit tree quarters and Strawberries must come in for critical inspection, and if signs of falling away in any respect are apparent, then means must be provided to arrest this failing by the best remedy which suggests itself, according to the cause of failure.

A review at the present time of the results which have attended our labours in the kitchen garden during the past remarkable season cannot but be profitable. In this department there is ample scope for reflection as to the success of the various crops, and also as to the merits of the many new varieties which have been under trial. The conditions for any improvements which reflection may suggest, whether in relation to crops the quantities or varieties to be grown, are much more easily decided upon when the work is anticipated and arranged for, whilst examples of the year's work are actually before us, than when they have faded from view into the dim distance.

Time will also be well spent in reviewing work in the flower-garden during the past season. It is now much easier to detect flaws and errors while the plants are in full bloom and other occupants of the beds in full foliage, than it will be later on when the beds are bare. It is so much easier now to suggest and determine on any improvements which it may be possible to introduce into this department of the garden the following year, whether it be in the introduction of some new and effective plant for bedding or in improved combination and association of other plants. No opportunity should be lost sight of to make this aspect of the garden, however small it may be, as interesting, bright, and beautiful as it is possible to make it; remembering that in the majority of cases it is situated within the sight of its owners all the day long.

Herbaceous borders have been so improved of late years in interest and beauty by the introduction of many new and hardy plants, and also by the greater attention given to

improved arrangement and association of the immense wealth and variety of these beautiful plants now available for the gardener's service, that they are worthy the closest attention, and now is the time to see them at their best.

The lawn, the pleasure-ground, and the woodland will well repay any attention they may receive at the gardener's hands at the present time. Trees grow rapidly, and without due attention to pruning and thinning valuable specimens soon injure one another past redemption. Double or treble leaders may be forming on some of the choice Conifers, and if not removed in time will disfigure the growth of the tree for years to come.

New Conifers and other hardy foliage and flowering trees and shrubs of great ornamental value and interest are constantly being introduced, and to those to whom the Pinetum appeals and gives pleasure, the addition of an occasional new introduction is a source of great interest.

It will soon be time for planting early bulbs; and in association with these what possibilities of effect are opened out, and what visions of beauty rise to the mind when we remember the various ways in which their services can be requisitioned, whether in the flower-garden or mixed border, but more especially in gardening in the grass! Those who have not already embarked in this delightful aspect of out-of-door gardening would not be long in doing so did they know the rich store of interest and pleasure waiting for their enjoyment, and that at a comparatively trifling cost. O. T.

GUNNERSBURY HOUSE.

In the Japanese garden at Gunnersbury House the other evening I noticed the very distinct *Hydrangea quercifolia* in flower. In a cool, half-shady place it was very distinct and effective. The large-lobed leaves have a certain resemblance to Oak-leaves, but are more hispid or hairy and of a dead olive-green shade. The paniculate inflorescence reminds one of that of *H. paniculata*, but the aborted flowers are whiter and larger and more shapely in their way. The abortive flowers, by the way, in *Hydrangea*, *Viburnum*, &c., are of course the showy ones from a garden point of view. The beauty of the showy flowers is, in this species, intensified by the centre of the inflorescence being densely filled with tiny apple-green buds and small Spiræa-like flowers of quite another character. Although this plant may not generally prove to be so showy as *H. Mariessi* and *H. M. alba*, it nevertheless deserves a place in the rock, Japanese, or bog-garden, as a distinct companion to *Rodgersia*, *Bamboos*, and other Japanese vegetation.

Now I am writing, I should like to say how very rich and beautiful the lawns, gardens, and lake at Gunnersbury House really are at the present time. The Nymphæas or Water Lilies alone are well worthy of a long journey to anyone who, like myself, is interested in these charming flowers. All M. Latour Marliac's best seedlings are represented in the cold water, along with one or two of the hardier of the blue-flowered kinds.

In an open-air tank, slightly heated by a 4-inch hot-water pipe passing round its bottom, the Eastern Lotus, or *Nelumbium*, is vigorous and healthy, and its first flower-buds are about to expand above the soft, parasol-like leaves. The tank-margin itself is concealed by grasses and other appropriate aquatic vegetation. Along the front angles is a rich border of *Pontederia* (*Eichornia*) *crassipes*, which quite recently bore

three or four hundred of its erect spikes of soft blue-purple flowers. This plant has long been grown in botanic gardens as furnishing an example of swollen petioles, hence perhaps its popular name of "The Fishing-float Plant," but it rarely flowered under hot-house cultivation, although its first cousin, *Eichornia azurea*, often flowers freely under glass. *E. crassipes* is "The Water Hyacinth," so often alluded to in the newspapers as forming a kind of "sud" and blocking river steamers on the Amazon and its tributaries in South America. It also has proved a nuisance in Queensland and elsewhere

4-inch hot-water pipe concealed in the mud at the bottom. The tank is covered by a wooden glass-covered frame, the lights of which can be raised for ventilation or other cultural purposes. The leaves are large and rich green in colour, with indented margins, and the buds expand at the water-line; but eventually the stalks become erect, and the great flowers are raised a foot to 18 inches above the water, thus giving them a very stately appearance. The flowers themselves open dark blue with an orange centre, but as they reach their utmost expansion of 8 to nearly 11 inches the colour becomes of a

the blue Egyptian Lotus (= *N. stellata*), *N. s. Berlin* variety, and *N. s. pulcherrima*, the finest perhaps of the *N. stellata* group or series. There are also the American seedlings, Mrs. Ward and William Stone; but beautiful and fragrant as these undoubtedly are, none can for a moment be compared to advantage with *N. gigantea*. Mr. Hudson recently received a First-class Certificate for a seedling of *N. gigantea* raised at Gunnersbury; and well it deserved the honour awarded. Will it hybridise with African, European, or American kinds? That it varies from seed, the certificated variety *N. g. Hudsoni* amply proves.



FIG. 54.—FIRST PRIZE EXHIBIT OF DAHLIAS IN CLASS 57 AT SHREWSBURY, FROM MR. W. TRESEDER, CARDIFF, HAVING A FRONTAGE OF 10 FEET 6 INCHES. (SEE P. 151.)

when introduced into streams. The effect of the plant at Gunnersbury is good, whether in flower or not, and there is perhaps one little point about its flower-spikes worth recording, viz., that though its inflorescence is quite erect until the last flower fades, it then bends downwards, burying its young seed-vessels in the water, a habit probably of service in its South American home as a protection against vegetable-feeding animals or birds.

Finest of all the Water-Lilies at Gunnersbury, however, is the "Queen Water-Lily of Queensland," *Nymphaea gigantea*. It is difficult to keep calm and critically sober in the face of so noble and exquisite a flower. It is grown at Gunnersbury in a shallow tank, the water of which is slightly heated by a flow-and-return

paler hue—soft blue, with a glistening lustre like fine old satin. Each flower consists of the usual four or occasionally five greenish sepals and several whorls of flattened petals which imbricate, and ultimately reflex slightly around a central boss of golden-yellow stamens which recalls that in the single white-flowered Chinese Peony. Mrs. Rowan, the lady who made sketches of many lovely Australian flowers, startled some of us in her book by describing the flowers of this heavenly blue Water-Lily as being "as large as soup-plates"; but she was quite right, and the flowers now in bloom at Gunnersbury are much finer than the late Miss Marianne North's picture of them painted in Australia and now at Kew.

Beside this kind at Gunnersbury are growing

Shall we ever get a race of really hardy blue Water-Lilies for our cold-water ponds and streams? The beauty of the Australian visitor at Gunnersbury House, and its grateful response to a genial cultural welcome, seems in any case to open up vistas of blue water-flower beauty of the finest kind.

Apart from Water-Lily ponds or lakes and pools, there is much else to see at Gunnersbury—Roses, Tea Roses, China Roses, old Roses, and Roses new, of all the best kinds. The terrace is bounded on the lawn side by Pomgranates, scarlet, and the still rarer white-flowered variety amongst them, with sweet-scented Verbena (*Aloysia*) and Myrtles of varied kinds, with the blue of *Agapanthus*, the vivid scarlet of *Tropæolum* and *Silvia*, *Polargonium* and

Fuchsia, and the homely fragrance of banks of the dear old scented Cape Pelargonium, beloved of other and more simple social days. There are noble Cedars and Elms, glints of velvety lawns and water through the trees, such Hydrangeas in tubs as one can only see elsewhere in Cornwall or in the south and west of Ireland. An Hydrangea in a tub that measures 8 feet high and 10 feet through and bears hundreds of its soft green and rosy flower-heads is worthy of respectful consideration.

No visitor privileged to see Gunnersbury can forget the *Magnolia conspicua* of spring, or the quaint old standard, near the house, of *M. grandifolia*.

SHREWSBURY.

IN our present issue we are enabled to publish some photographs taken specially for this Journal by Mr. Thurtle, of Shifnal, at the great show of the Shropshire Horticultural Society held at Shrewsbury last week. Fig. 54 represents the 1st prize exhibit of Dahlias, shown by Mr. William Treseder, nurseryman, of Cardiff, which was greatly admired for its general good effect. This firm frequently exhibits Dahlias, and although the flowers have usually to travel a great distance, as, for instance, when exhibitions are held in London, they are usually successful in winning prizes.

conjunction with a much larger group of Gloxinias.

In fig. 57 is illustrated an exhibit of Carnation flowers that won 1st prize for Mr. A. F. Dutton, nurseryman, of Bexley Heath, Kent. We have had occasion several times already this season to refer appreciatively to the quality of the flowers, and to the effective arrangement conspicuous in Mr. Dutton's exhibits at the Temple Show and at the Drill Hall. Though Mr. Dutton has been only two seasons in his present nursery, which was already provided with glass-houses, he has worked up a stock of 40,000 plants. He has four span-roofed houses,



FIG. 55.—BEST GROUP OF COMPETITIVE TUBEROUS-ROOTED BEGONIAS AT SHREWSBURY, SHOWN BY MR. FRED DAVIS, AN AMATEUR.

Gloria in autumn. The latter tree is noble and laurel-like, with great ostrich-egg-shaped buds, and flowers that, when fully expanded after a hot day in August, remind one of pure white fantail pigeons nestling cosily amongst the great glossy leaves.

The Ivy-leaved Pelargoniums and Fuchsias in pots, the borders gay with Heliotrope, Celosia, Aconite, Tritoma, and other flowers, the fruit-tree houses and the Orchids, must await "a more convenient season." Thanks to my old friend and fellow-student at the Royal Horticultural Society's examinations, I enjoyed the privilege of a look round these gardens retired and beautiful; but apart from any questions of personality and good fellowship, they are exceedingly beautiful and fair to see. F. W. Burbidge.

An excellent group of tuberous-rooted Begonias is shown in fig. 55. This exhibit won 1st prize from such renowned firms as Messrs. Blackmore & Langdon, of Twerton Hill, and Mr. Davis, of Yeovil. It is especially remarkable, because, as we are informed by a correspondent, Mr. B. G. Stanley, the exhibitor, Mr. Fred Davis, Woolashill, near Pershore, is quite an amateur, being a farmer high up on the side of the Bredon hills. Some five or six years ago Mr. Davis caused considerable surprise by winning important prizes at Birmingham for Chrysanthemums. His exhibit of Begonias at Shrewsbury was as good as any we have ever seen. Another exhibit of Begonias is shown in fig. 56. In this case the flowers are all single, and belong to a type that develops crests on the petals. The exhibit was made by Messrs. Sutton & Sons, of Reading, in

150 feet long by 25 feet wide each, containing blooming plants in 6-inch pots. One house, containing 3,000 plants of the variety Mrs. Thos. W. Lawson, is typical of the other three. It is now an excellent show, although flowers have been cut from them since September, 1902. Mr. Dutton estimates that he has cut 10 or 12 blooms from each plant in the year. In the remaining house, containing blooms for cutting, are the following varieties:—Melba, Royalty, G. H. Crane, Cambridge White, Queen Louise (white), Cambridge Clove, Floriana, Sybil, &c. Strict attention is paid to disbudding, and the compost used, even for the young stock, contains much prepared manure.

The two remaining photographs on pp. 160, 161 illustrate the 1st and 2nd prize exhibits in the Champion Grape Class for twelve bunches. The

st prize exhibit, from the Earl of Harrington (gr., Mr. Goodacre), contained none but first-rate varieties. They were as follows: Back row, reading from right to left (1 to 6), Black Ham-
burgh, Madresfield Court, Muscat of Alexandria, Madresfield Court, Muscat of Alexandria, and Muscat Ham-
burgh; front row, reading from right to left (7 to 12), Muscat Ham-
burgh, Muscat of Alexandria, Madresfield Court, Black Ham-
burgh, Muscat of Alexandria, and Muscat Ham-
burgh. By referring to the table of points in our

Alexandria, Alnwick Seedling (2), Muscat of Alexandria, and Black Alicante.

On the first day of the exhibition the weather was delightful, and the receipts at the gate amounted to £983 19s. 9d., being only £20 less than last year's record figure. On Thursday, the second day, however, rain fell continuously, and the receipts were only £1,357, compared with £1,918 last year, and £1,690 in 1901. The total receipts, it is expected, will meet all expenses, and leave a small balance on the year's working.

expedition to Hantam, where *C. tomentosa* was collected.

Thunberg's description, given below,* is not a very good one, but agrees very well with Masson's specimens; so there can be little doubt the identification is correct. During the last two years a *Crassula* has flowered twice at Kew, which I find upon comparison to be the same as Masson's specimens of *C. tomentosa*; and as the latter is only imperfectly described, I here give a more complete description, taken from the living



FIG. 56.—A GROUP OF CRESTED BEGONIAS SHOWN AT SHREWSBURY BY MESSRS. SUTTON AND SONS, READING. (SEE P. 151.)

report last week, each bunch may be identified by its number. Messrs. D. & W. Buchanan, of Kippen, N.B., who were 2nd, as last year, had four remarkable bunches of Muscat of Alexandria, three of which were awarded the maximum number of points. The other gained 10½ points, and is the bunch of Muscats nearest to the left hand in the back row. The exhibit contained too few first-class varieties to win 1st prize. The varieties were, front row, reading from right to left, Alnwick Seedling, Muscat of Alexandria, and Cooper's Black (2), Muscat of Alexandria and Cooper's Black. Back row, reading from right to left, Black Alicante, Muscat of

NEW OR NOTEWORTHY PLANTS.

CRASSULA TOMENTOSA, Thunb.

This plant is interesting as being one among many that were collected in South Africa by Thunberg about 130 years ago, which have remained practically unknown ever since. In 1897, however, it was pointed out by Messrs. Baker and Britten, in the *Journal of Botany* for that year, p. 481, that there were specimens of this species in the British Museum which were collected by Masson, who travelled with Thunberg on his

plant, which is remarkable for the great difference between the form and arrangement of the leaves of the barren rosettes and those of the flowering stems.

A perennial herb, 6–15 in. high when in flower, but only 2–3 in. high when not flowering,

* *Crassula tomentosa*, Thunberg in Nov. Act. Phys.-Med. Acad. Cesar. Leopold-Carol. Nat. Cur., vol. 6, p. 333 (1778). —“Folius connatis, lanceolatis, villosis, ciliatis, caule subnudo; floribus verticillatis. Crescit in Hantam. Floret Octobri, Novembri. Folia radicalia oblongo-lanceolata, obtusiuscula, connata, hirsuta, ciliata, imbricata, pollicaria; caulina trium parium, minora. Caulis angulatus, erectus, villosus, pedalis. Flores verticillati.”

branching at the base, where the main stem varies from $\frac{1}{4}$ — $\frac{1}{2}$ in. thick. Leaves of the barren rosette $\frac{3}{4}$ — $1\frac{1}{2}$ in. long, $\frac{3}{4}$ — $1\frac{1}{8}$ in. broad, $\frac{1}{8}$ in. thick, orbicular-obovate to broadly cuneate-obovate, very broadly rounded at the apex, connate at the base, crowded, distichous, but being alternately developed to the right or left, they form a subquadrate rosette, with the young leaves erect and the older spreading or recurved, flat above, slightly convex beneath, or when old and recurved they become convex above and concave beneath, fleshy, bright-green, softly pubescent (almost velvety) on both sides, ciliate

site bracts or some of the lower clusters pedunculate and capitate, forming a long, narrow, interrupted inflorescence. Bracteoles about $1\frac{1}{2}$ lin. long, $\frac{1}{2}$ — $\frac{3}{4}$ lin. broad, puberulous beneath, glabrous above, ciliate. Sepals 1 — $1\frac{1}{4}$ lin. long, $\frac{1}{2}$ — $\frac{3}{4}$ lin. broad, oblong, obtuse, convex and thinly puberulous on the back, flat and glabrous on the inner face, ciliate, green. Corolla white, gamopetalous! 5-lobed, glabrous; tube $\frac{3}{4}$ lin. long; lobes $1\frac{1}{2}$ lin. long, $\frac{3}{4}$ lin. broad near the base, ovate-lanceolate, constricted at the base, tapering in the upper part into recurving subacute tips. Stamens 5, shorter than the

wired-in enclosures of 20 or 30 yards square. But can fowls under such circumstances be kept at a profit? I am satisfied that in nine cases out of ten they are kept at a loss. Why is it, then, that so many are maintained? They are kept as a hobby, and any loss that is made is more or less compensated by the pleasure of possessing such live-stock and securing home-laid eggs warm from the nest.

There is, however, one way, and I believe only one, by which a few fowls can be kept at a certain profit, although closely confined, and if it were more generally practised, the number of suburban



FIG. 57.—FIRST PRIZE EXHIBIT OF CARNATION FLOWERS SHOWN AT SHREWSBURY BY MR. A. F. DUTTON, BEXLEY HEATH, KENT.
(SEE P. 151.)

with soft spreading hairs $\frac{1}{2}$ — $\frac{1}{4}$ lin. long. When about to flower the leaves change their form and become spaced out; the lower are 1 — $2\frac{1}{2}$ in. long, $\frac{3}{4}$ — $\frac{1}{2}$ in. broad, varying from cuneate-oblong to elongate-oblong or lanceolate-oblong, obtuse or subacute, connate at the base into a sheath $\frac{1}{4}$ — $\frac{1}{2}$ in. long; the upper stem-leaves become gradually smaller, so that those at the base of the flowering part are not more than 5 — 9 lin. long and 3 — 4 lin. broad, passing into the bracts; all are pubescent and ciliate like the leaves of the barren rosettes. Flowering stems terminal, terete, with internodes $\frac{1}{2}$ — 2 in. long, softly pubescent, with short, spreading hairs. Bracts similar to the upper leaves but gradually smaller and glabrous above. Flowers in 5 — 8 small, compact, distant clusters $\frac{1}{2}$ — $\frac{3}{4}$ in. in diameter, all sessile in the axils of the oppo-

corolla; filaments filiform, glabrous, whitish, anthers yellow. Hypogynous glands about $\frac{1}{2}$ lin. long, broadly cuneate-obovate, truncate or slightly emarginate, orange. Carpels tapering upwards, glabrous, green; stigma oblique. *N.E. Brown.*

SUBURBAN POULTRY KEEPING.

THE number of suburban poultry-keepers has increased enormously during the past fifteen years, and it has been estimated that fully one-third of the eggs produced in this country are now obtained from this source. Suburban residents living in detached or semi-detached villas are, as a rule, obliged to confine their feathered stock within very narrow limits, such as small

poultry-keepers might yet be increased tenfold. Instead then of attempting to rear chickens, or to keep any adult fowls all the year round in confined enclosures, let the poultry-yard be tenanted with stock for six months only, from the middle of February to the middle of August. Purchase in February, say, a dozen pullets or one-year-old hens of a non-sitting breed, such as leghorns, andalusians, or minoreas. During the following six months these fowls will lay quite four-fifths of the eggs that can be expected from them if kept the full twelve months. We therefore get a maximum of eggs during these prolific egg-laying months at a minimum cost of food and labour of attending. The fowls when bought in may cost from *2s. 6d.* to *3s. 6d.* each, and when sold out in August will commonly

realise from 1s. 9d. to 2s. each, as they will then be in good condition for killing. All surplus eggs laid during the summer should be dropped into water-glass, lime pickle, or otherwise preserved for autumn and winter use. By adopting this simple plan you escape the six unprofitable months in all poultry-yards; and in too many instances the handsome profit made during the spring and summer months is more than eaten up during the autumn and winter. Again, very few people are successful in keeping fowls in small enclosures, however well attended, in either health or profit, for twelve consecutive months, to say nothing of the increased labour and misery of attending to such stock in all weathers through our inclement winters.

No fowls produce so many eggs during the laying season as those confined in suburban runs. This is owing to the better care and attention which they receive, the shelter afforded, and the table-scrap food, which is so conducive to egg-laying. The best varieties of fowls for egg-laying are now so generally and largely bred throughout the length and breadth of our land that there can be no difficulty in securing a dozen head or so of suitable stock, and at a moderate price, to place in one's pen in the spring of each year. There are probably a quarter of a million amateur poultry-keepers who by adopting this suggestion may convert a loss into a certain gain, as well as avoid the many diseases which sooner or later bring disaster to all poultry-keepers who attempt to do too much upon a limited space. *K. B. Baghot de la Bere, Burbage Hall, Leicestershire.*

TREES AND SHRUBS.

THE GOLDEN ELDER.

THERE is a general impression that the Golden Elder is a variety of our common native Elder (*Sambucus nigra*), and in the recently-issued revised edition of the *Hand-List of Trees and Shrubs grown in the Kew Arboretum*, it is so designated. This, however, is an error. The species to which this plant belongs is the Canadian Elder (*S. canadensis*), a plant which flowers later in the season than the common Elder, and whose flowers have not the powerful odour of those of that species. The cymes of the Canadian Elder are more cushion-shaped than those of the common Elder, and its leaves have, under similar conditions, one pair more of lateral leaflets. It also differs from the common Elder in the number of the parts of its calyx, corolla, and andræcium. In *S. nigra* the number of sepals, petals, and stamens is four, but occasionally five occur. In *S. canadensis* the number of these is five, but six are occasionally met with.

At a meeting of the Botanical Society of Edinburgh, on July 9, 1896, I pointed out that this plant was a variety of *S. canadensis*, and in a letter to the *Garden* on March 5, 1898, in reference to an article which appeared in that periodical on the Elders, I repeated this observation. Subsequent to the meeting of the Botanical Society at which I made this communication, I had an opportunity of discussing the matter with Mr. James Grieve, of Redbraes Nursery, Edinburgh, whom I found to be quite cognisant of the fact that this plant was a variety of the Canadian species, and I also learned from him some interesting facts relating to its history; and quite recently I had an opportunity of again discussing the matter with him. Mr. Grieve states that the Golden Elder was first brought to Edinburgh (where it subsequently became very plentiful in the public gardens) about thirty years ago, from the nurseries of Messrs. W. Samson & Co., Kilmarnock, and that the late Mr. William Gorrie, landscape gardener, Edinburgh, who called it the "Cauliflower-

headed" Elder, was chiefly instrumental in bringing it under the notice of the Edinburgh nursery trade. But at that time the plant must have been very scarce, as Mr. Grieve states that he himself propagated it from single buds (as is done in the case of Vines) in the nurseries of Messrs. Dicksons & Co., at Pilrig. It would be interesting to find out if anything more than has been stated here is known to readers of the *Gardeners' Chronicle* as to the origin and distribution of this now very common plant, as I have, so far, been unable to find any record of this in published works. *A. D. Richardson, Edinburgh.*

HARDY PLANT NOTES.

KNIPHOPIA ERECTA (?).

IN the autumn of last year I received from a well-known French nurseryman at Lyons a plant under the above name which purported to be something quite new and distinct from all other members of the genus in having its flower-tubes turned upwards, instead of downwards, as they usually are. When my plant came into flower with two spikes of bloom about a fortnight ago I was much disappointed to find that its flowers were in nowise erect, but merely those of an ordinary form of *K. uvaria*. I at once wrote to the sender of the plant, requesting him to send me a spike of the true variety for comparison, in case a wrong plant had been sent me by mistake. I now hear from him to say that to his great surprise and regret the flowers of his plants, which were perfectly erect last year, are this year no longer so, but seem to have reverted to the type form. I think this curious case of reversion is worth recording in your columns. *W. E. Gumbleton.*

PAPAYER ACULEATUS (the Prickly-stemmed Poppy).

IN the spring of this year some seeds were sent to me for trial by Messrs. Barr Brothers, which had been collected by their father when travelling in the Transvaal region. Amongst these was one labelled "Bronze Poppy"; this is now flowering in my garden, and is most distinct in appearance, all the leaves and flower-stems being thickly covered with stout hairs or bristles, which account for its distinctive name as above stated. I sent a blooming stem to the Kew herbarium for identification, when it was pronounced to be *Papaver aculeatum*.

I find that it is also figured in the 64th volume of the *Botanical Magazine*, on plate 3,623, under the synonym of *P. gariepinum*; but this plate somewhat inadequately represents the plant, and hardly does full justice to either the size or colour of its flowers. It is also figured by Sweet in the second volume of his *British Flower Garden*, on plate 173, under the name of *P. horridum*; and this is a much better and more accurate portrait of the flower. *W. E. Gumbleton.*

NOTICES OF BOOKS.

A CONCISE HANDBOOK OF GARDEN FLOWERS, by H. M. Batson. (Methuen & Co.)

NOW that so-called wild-gardens, rock-gardens, and herbaceous borders are in vogue, the utility of a "concise handbook" will not be contested, provided it be well done. Of course there are Nicholson's *Dictionary of Gardening*, Robinson's *English Flower Garden*, the *Kew Hand-Lists*, which are specially valuable as the work of experts, and various other books that might be enumerated in this connection, but they cannot all be called concise handbooks. Mr. Batson's work is a handbook in the literal sense of the term, and of necessity it is concise. Little or no botanical detail is given, the special points in the manners

and customs of the plants, the way in which they adapt themselves to varying conditions are not mentioned, and so a world of interest is left untouched. But no blame can be imputed to the compiler on this ground. It did not enter into his plan to go into such details, and had he done so conciseness must have been abandoned. What he has given us is an alphabetically arranged catalogue of most of the more important hardy herbaceous plants. This list is carefully compiled and up to date. *Fritillaria askabadensis*, for instance, is included, and so is *Astilbe Davidii*. With reference to this latter plant, the writer has gone out of his way to give it an absurd English name, "David's False Goat's-Beard"! whilst the singular beauty of the flower is hardly, if at all, mentioned.

Senecio clivorum, a noble perennial, is also included, as well as *Polygonum Baldschuanicum*. *Polygonum sacalinense* is alluded to under the heading of *P. cuspidatum*, though it is very properly pointed out that it is distinct from *cuspidatum*. Reference to the full index, which is given at the end of the volume, will prevent a careless reader from confounding the two.

A similar remark applies to *Hypericum Moserianum*, which surely deserved a separate paragraph, instead of a mere mention under *H. calycinum*.

Begonia Veitchii can hardly be considered a hardy plant in this country.

The cultural details are brief but to the point. They reflect the author's own experience, and may not always coincide with the experience of others. We should not, for instance, recommend anyone to plant *Hieracium aurantiacum* on the rock-work, or anywhere where its vagrant habits and powerful assertiveness would be objectionable.

The Shirley Poppy and other forms of *Papaver Rhæas* are omitted, but no fewer than four species of *Incarvillea* are noted. One *Rubus* only is included, *R. arcticus*—spelt, by the way, "*R. articus*," a trifling oversight which we mention because it forms an almost solitary exception to the correctness of the names. *Rubus deliciosus* and *R. leucostachys*, and the double pink Bramble had claims for admission, but we can well understand that selection and elimination had to be practised.

Discursive notes of this kind might be largely extended, but to little purpose. Let us in conclusion recommend the book as a very useful, carefully compiled catalogue, and one likely to be very serviceable to the amateur and to young gardeners.

ORCHIDS.*

IT would require far more space than we can afford to do justice to this excellent work, which in its original form by Mr. W. Watson, of Kew, assisted by Mr. W. J. Bean, is well known and highly appreciated by orchidists generally. The revision of the work, and the addition of more extensive cultural instructions, together with a mine of information relating to all that pertains to the raising and cultivation of hybrid Orchids, by Mr. H. J. Chapman, has greatly enhanced its value in every respect. There seems no part of the practice of Orchid culture which has not been ably dealt with in a short chapter easily turned to by reference to the index; and the twenty fine coloured plates and numerous illustrations, chiefly from photographs by Mr. Chapman, are not only a help to the Orchid-grower seeking information, but a temptation to the casual reader who does not grow Orchids to attempt, with the aid of such an excellent work, the pleasures of Orchid culture.

As has been stated, the work commences with chapters on the leading points in Orchid-culture.

* *Orchids, their Culture and Management.* L. Upcott Gill, Drury Lane, London.

Then follow an enumeration and description of the genera and species, with general remarks and cultural directions, with each references to the authorities for the names and figures being given where possible. In these matters the work is generally accurate, although, as in most other books of the kind, occasionally the author is to be caught tripping. For example, at p. 83, *Catasetum Bungeorthii* is described, and at the end the information is given "syn. *Coryanthes Bungeorthii*." Turning to p. 130 we find "*C. (Coryanthes) Bungeorthii* (N. E. Br). This is a synonym of *Catasetum Bungeorthii*." The fact is that N. E. Brown never named *Coryanthes Bungeorthii*. If he had done so he could not possibly have confused it with *Catasetum*. *Coryanthes Bungeorthii* Rolfe is a very distinct *Coryanthes* figured in *Lindenia*, vi., p. 11, and of course bears no resemblance to a *Catasetum*. There are also a few other errors, none of which detract much from the usefulness of the work, which may be regarded as one of the best, most "up-to-date," handy volumes of reference for Orchid-growers of all classes, either amateur or commercial, hybridist or cultivator of imported Orchids. At the end of the work "British and other Hardy Orchids" are dealt with; and "A Chapter for Beginners" added, both of which are good features in the work, which extends to 559 pages, and is well indexed.

EASTNOR CASTLE:

GARDENER AND GARDENS.

WE have pleasure in publishing the portrait of Mr. Mullins, gardener to G. Farquhar, Esq., at Eastnor Castle, Ledbury, who won the 2nd prize at Shrewsbury last week in the class for a decorated dessert table, and who is frequently successful at horticultural exhibitions. The following particulars of his training and of some features of Eastnor gardens will be best given in Mr. Mullins's own words:—

"I spent the first four or five years of my gardening career in the neighbourhood of Salisbury, principally in the gardens of the late Lord E. Thynne. Leaving Salisbury, I went to Somerleyton Hall, Suffolk, under the late Mr. J. Bole, and remained three years as journeyman. I then went to Messrs. J. Veitch & Sons' nurseries for a few weeks before becoming foreman to Mr. C. Denning, Ashgrove, Sevenoaks, where I remained the only one season owing to a reduction in the gardens in 1890. I again spent a few weeks in the Chelsea nursery before being engaged as the foreman by Mr. Thomas, Sunbury Court, Middlesex, where at that time fruit and flower forcing were extensively carried on. After two and a half years at Sunbury, I went as managing foreman to Mr. T. S. MacLaurin, agent to H.I.M. the Empress Eugénie, Farnborough Hill, Hants, which post I filled until November 1, 1895, when I was appointed by Lady Henry Somerset to take charge of her ladyship's gardens at Reigate, where extensive alterations and improvements were carried on during the following two years. On the retirement of Mr. F. Harris from the Eastnor Castle Gardens, I was appointed by her ladyship to succeed him on November 1, 1897.

"Eastnor is four miles west of the Malvern Hills, within the bounds of the old historical Malvern Chase, and is delightfully undulating. The soil in some parts is calcareous, in others a good rich loam, and is admirably adapted to the growth of the Conifers and deciduous trees.

"The late Earl Somers, a great lover of trees, made good use of these natural advantages, and about the year 1840 commenced to form a very fine collection of Conifers, choice shrubs and deciduous trees. The 40 acres of pleasure-grounds are now well furnished. The lake, which is 22 acres in extent and is situated at the foot of the terraces joining the castle, is tastefully

fringed with Dogwood, which has a very pretty effect. His lordship did not confine his planting to the 40 acres of pleasure-grounds, but planted *Pinus insignis*, Cedars, and *Cupressus macrocarpa* in large groups, chiefly on high ground surrounding the pleasure-grounds, and although a great number were killed in the memorable winter 1860—1861, many still remain, and are now very fine specimens of their kind. In 1861, by the assistance of Mr. W. Coleman, his lordship greatly increased the planting; and looking now at the noble specimens and fine groups, one admires the taste and forethought exercised in the arrangement. In order to secure quick results over such an extensive area his lordship and Mr. Coleman generally adopted the method of planting in groups such varieties as *Thuja gigantea*, *Libocedrus decurrens*, *Cupressus Lawsoniana*, *Juniperus chinensis*, and many others which have now a charming effect.

"On entering the pleasure-grounds by the lodge-gate, the visitor's attention is at once attracted by a fine specimen of *Sequoia sempervirens*, which has lost its leader more than once, but still attains



MR. GEORGE MULLINS,
Gardener at Eastnor Castle.

a height of 80 feet, while the girth of the trunk 18 inches from the ground is 14 feet. There are also in this vicinity a great number of stately Cedars, *Cryptomeria japonica*, 40 feet high; *C. Lobbi*, *Pinus Lambertiana*, *Abies Nordmanniana*, 70 feet high; *Tsuga Hookeri*, numerous *Sequoia (Wellingtonia)* over 70 feet high. There are fine groups of *Pinus excelsa* growing on the edge of the lake.

"In the grounds, which lie more on the north side of the castle, there are good specimens of the following trees:—*Tsuga canadensis*, girth of stem 8 feet, spread of branches 40 feet; *Pseudo-Tsuga Douglasii*, which has been planted extensively, and makes fine specimens, some of which were planted in 1862, and on being measured in 1882 were found to be 52 feet in height, showing they are at home at Eastnor; *Abies grandis*, about 70 feet; *A. bracteata*, 65 feet high, spread of branches 38 feet; and *Cedrus libani*, a noble and well-preserved tree, with spread of branches of at least 90 feet. There are fine trees of *Cedrus atlantica glauca*, from cones gathered by Lord Somers, and which present the appearance of conical masses of frosted silver; also fine specimens of *Pinus insignis*, from seeds gathered and sown by Mr. Coleman in 1861.

"In the rock-garden are found such trees as *Araucaria imbricata*, two fine trees of *Prumnopitys elegans*, which bear fruit, and are over 20 feet in height; *Thuyopsis dolabrata*, *Pinus Montezumæ*, one of the original trees of *Acer*

atro-sanguineum, with a spread of branches equal to 30 feet; also fine pieces of *Taxus elegantissima aurea*, 25 feet through, and others which are too numerous to mention.

THE KITCHEN-GARDEN AND FRUIT-HOUSES

stand on 6 acres of land, and contain some remarkably fine fruit-trees, among which is a Peach-tree of the variety *A Bee*, which is not so well known probably as it deserves to be. It was planted about 1863, and fills a house 40 feet by 12 feet. This Peach may be described as an early Royal George, and of the finest quality. Another notable old Peach-tree is a *Stirling Castle*, growing on the open Peach wall, and filling a space of 42 feet run by 10 feet high. It annually carries heavy crops of fine large fruits. There are two long south walls which are well covered with good specimens of the Peach and Nectarine. Returning to the houses I must conclude by a description of the old Vine Black Hamburgh, supposed to have been planted in the year 1812, and which at the present time fills a house (span-roof) 72 feet in height and 20 feet in width, running north and south. The old Vine at present is in good health and carries heavy crops, some of the bunches weighing 4 to 6 lbs. Another house contains a *Muscat of Alexandria* which has been planted over 50 years, and is fast filling the spacious house it occupies." *George Mullins.*

REMARKS ON THE CONDITIONS OF THE FRUIT CROPS.

(See Tables, ante, pp. 72—77.)

(Continued from p. 136.)

✓ KENT.—Pears and Plums are practically absent in this neighbourhood, the crops having been cut off by late frosts in May, after a most promising flowering season. *George Fennell, Bowden, Tonbridge.*

— Apples, such as Worcester Permain, Ribston Pippin, Duchess' Favourite, King of the Pippins, are carrying fair crops, but generally the crop is a light one. The Strawberry crop has turned out much better than we expected, after the excessive cold rains in June. Gooseberries, Raspberries, and Mulberries are good. Pears, stone-fruits, Cobs and Walnuts are almost a failure. *Geo. Hutt, Lullingstone Castle Gardens, Eynsford.*

— Gooseberries, Strawberries, and Raspberries are average or just under average crops, and fairly good in quality; but other bush fruits are a complete failure, chiefly owing to late frosts. Stone fruits failed to set well, and what promised to be a small crop was nearly all lost after the wet and cold of early June. It seems impossible this year to keep the trees free of insect pests. *W. E. Humphreys, Blendon Hall Gardens, Bexley.*

— Although the frosts of May and June are mainly accountable for a general failure in fruit crops, I cannot but come to the conclusion that the sharp frost of November, 1902, falling on wood which by that time was scarcely ripened, is also a factor, because we have most fruit on Apples moved 1901 and 1902, which made but a little growth, and that very "hard," owing to thin foliage. *George Bunyard, V.M.H., Maidstone.*

MIDDLESEX.—I have never seen such a total failure as in this part of the country. I do not think we have a late Pear; most trees are quite barren. Apples in a similar condition, except Cox's Orange and Lane's Prince Albert. No Plums or Damsons of any kind. A few Morello Cherries; dessert ones flowered well, but all dropped after the severe weather in May. Small fruit produced a fair crop when sheltered. Early Strawberries a quarter crop, but later ones good. Peach-trees in some cases were so badly injured.

that they will never recover; a few kinds are bearing half a crop, early kinds none at all. *G. Wythes, Syon House Gardens, Brentford.*

— This is one of the worst seasons for fruit that I have experienced for many years—Apples and Pears almost absent, Plums short, and Cherries only a thin crop; but of the soft fruit there has been a very fair crop—Strawberries good, Raspberries excellent, and of Gooseberries and red Currants we have had a very satisfactory crop of nice fruit. *H. Markham, Wrotham Park Gardens, Barnet.*

— The worst season I have ever had to record. The frosts wrecked the Pears completely after they had been hastened by the previous mild weather. The earliest Apple-blossom was cut off too, and so was the earliest Strawberry the same. Attacks of both aphid (green and black) and of American blight are more severe and persistent than usual. *Jas. Hudson, Gunnersbury House Gardens, Acton.*

— Never was there a finer prospect of a good fruit crop than there was this spring; but the cold winds and frost we experienced in April ruined the blossom and embryo fruits. From April 13 to 25 we had cold north-east winds, with from 4° to 9° of frost every morning. The only fruits that withstood the cold were Gooseberries and Currants; early Strawberries showing flower were all spoiled, but on the later varieties there was a fair crop. What few fruits of Apples, Pears, Plums, and Peaches did escape were completely destroyed by a terrific thunder-storm of hail and rain we had on May 26; the hail was more like pieces of ice than anything else, breaking off or lacerating every tender leaf and fruit. Peaches and Apricots on the walls had pieces knocked out of them to the core. Not a fruit of anything escaped that was exposed, the trees being mulched with their foliage. Potatoes, fair crops on light soils, on the heavy lands very poor owing to the late heavy rains leaving the ground so hard. No disease thus far. *W. Watson, Harefield Place Gardens, Uxbridge.*

— I regret to say the fruit crops are nearly a failure in this district. Gooseberries alone were satisfactory. Strawberries half crop. Pears and Plums total failure through the late frosts. Apples will be about a third of a crop, many having fallen. *W. Bates, Cross Deep Gardens, Twickenham.*

SURREY.—Fruit crops in this district are extremely scanty. With the exception of Apples and Morello Cherries there is nothing. Pears and Plums are very scarce. American blight is rampant, and in many cases the trees are growing much too strong, and the growths, with so much wet and sunless weather, are very soft. Strawberries, Gooseberries, Raspberries, and Currants have been a fair crop, but the quality of the fruit has left much to be desired. *J. F. McLeod, Dover House Gardens, Roehampton.*

— We have absolutely no Plums and no Pears; a good crop set, but the severe late frosts took all the young fruit. Apples just escaped. Strawberries seemed to throw up a second bloom and so gave a moderate but late crop. *W. Wilks, Shirley Vicarage, Croydon.*

— A complete failure in the case of Apples, Pears, and Plums, the late frosts we experienced being alone responsible. Strawberries, in spite of losing their first flowers, have been a good crop in quantity and quality; Royal Sovereign and Trafalgar particularly so. Raspberries in many cases have been few and are blighted. Gooseberries and Red Currants have been good, but Black Currants poor. *W. Honess, Cobham Park Gardens.*

— The Pear crop is practically a failure. Apple-trees flowered well, but the frost destroyed the greater part. Some trees of a variety are

cropping well, and others of the same have no fruits, though they seem to be in the same condition at time of flowering and are close together. Among Apples that are best with us is Stone's, a variety that has not failed for twelve years. It is undoubtedly one of the best varieties for autumn use. Lane's Prince Albert is another nearly certain cropper; Hormead Pearmain, Tower of Glamis, Warner's King, Allen's Everlasting, and Stirling Castle. Dessert Apples are very few. *C. J. Salter, Woodlatch Lodge Gardens, Reigate.*

— The condition of the fruit crops this year is deplorable, rarely has a worse report had to be made. Apples are a very light crop, a fair lot on one tree in twenty perhaps, but generally very thin. Whilst there are rather better results on walls, both Pears and Plums out in the open show scarcely a fruit. Cherries are better, yet the crop is a light one. On walls we see of stone fruits about half a crop. Of bush fruits, Gooseberries have been fairly plentiful, but Currants, except on walls, have been very poor. Strawberries have been partial, in some places good, in others thin, so much of the first bloom was destroyed by frost. Raspberries have been fairly plentiful, but all the same, many shoots suffered from frosts in the spring. *A. Dean, Kingston-on-Thames.*

— With the exception of small fruits, all other kinds are the worst and poorest I have seen here during the past seventeen years. *W. C. Leach, Albury Park Gardens, Guildford.*

SUSSEX.—The only Apple-trees that are carrying a full crop are two large old standards of Hambledon Deux-Ans, which are somewhat sheltered from north and north-east winds. The foliage at present is tolerably healthy, and we have so far escaped the disastrous storms which have caused much damage near us. *E. Burbury, Arundel Castle Gardens.*

— The Apple-crop in this district is a complete failure, but I attribute this to the ravages of birds in late spring as much as to the unfavourable season. The only varieties that are carrying anything like a crop are Cellini Pippin, Lord Derby, and King of the Pippins. Among the few varieties of Pears spared by the frosts to carry a crop may be mentioned Pitmaston Duchess, Bergamot d'Esperen, Beurré Rance, and Jersey Gratioli. Trees of Marie Louise, which have never failed to crop for the last ten years, have none. The severe cold was sufficient to cause the dropping of the profuse bloom upon Plum-trees. Raspberries were a bountiful crop, especially that grand variety Superlative. *Chas. Jones, Ote Hall Gardens, Burgess Hill.*

(To be continued.)

The Week's Work.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Pyrethrums.—Old clumps of these, after being established for a few years, become very congested in growth, and flower but poorly. In such cases it will be well now to take off sufficient of the best crowns to form another plot, and pot them up singly in small pots. Put them in a cold frame, and keep the atmosphere rather close until they have made new roots and growth. In November the plants may be planted-out with safety where they will flower.

Delphiniums.—Split up and replant Delphiniums. If this be done now, they will make fine plants for blooming next year. Often, for convenience sake, this work is delayed till late in the year, but late-planted divisions winter badly on some soils, and if the work cannot be done now it had better be deferred until spring.

Thrift and Pinks.—These plants when used for edgings in gardens become gappy after a few years. Where this is the case, lift the plants, divide them, and replant the best pieces. Plant

rather deeply, and make the soil firm around the plants. If the Thrift has not previously succeeded owing to the nature of the soil, add to it a good sprinkling of sand or grit.

Fibrous-rooted Begonias, which are so much used for bedding, can be readily increased by cuttings inserted now in pots or boxes of very sandy soil placed in a warm pit or frame. The joint immediately above the base of each cutting should show a growth bud, and this latter should not be removed before insertion. Tuberous Begonias are not often raised from cuttings, but any special variety may be increased in this way by following the same rule with regard to a base bud and striking the cuttings in a frame with a shaded aspect.

Mesembryanthemum cordifolium variegatum.—This favourite carpet plant must be rooted in an open airy position on a shelf in the glasshouse. If the cuttings be kept in a close, moist, or shaded place they will damp off.

General Work.—Keep the growth of weeds under by frequently using the hoe. On herbaceous borders and flower-beds regulate the ties and supports afforded the plants. Pick off all dead flowers and leaves, and ensure tidiness in all ways. Seeds of most hardy annuals may still be sown for flowering early next summer. Those sown earlier will be in need of thinning. Roses that have been budded and on which the ties have not yet been loosened, or which have been re-tied, should be examined to see that the ligatures do not cut into the bark.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Cauliflowers.—Make a sowing now, and another about September 20. Sow the seeds thinly on a south border or other sheltered position in drills drawn at 9 or 12 inches apart and securely netted against birds. As soon as the seedlings are large enough, prick them out into cold frames in soil that is not too rich. Shade them from strong sunshine and keep the frames closed for a few days only. Three good varieties for this sowing are Sutton's Magnum Bonum, Walcheren, and Veitch's Autumn Giant. Here we depend on plants sown in heat in January. Sutton's First Crop, if sown at that date, will produce nice heads by the end of May or the beginning of June and are not so liable to buttoning or bolting as those sown in autumn.

Turnips.—The last sowing may now be made for autumn and winter use. Such late-raised plants will sometimes grow during the whole winter, and they are valuable for supplying green-tops in early spring. Afford the soil a good dressing of wood-ashes and soot, and sow the seeds in shallow drills. Thin out earlier sowings and dust the plants with soot, wood-ashes, and lime. Use the hoe frequently.

Spinach.—Make another sowing on deeply-dug and well-manured land in a somewhat sheltered but open position. Afford the ground a good surface dressing of burnt garden refuse, level and make the soil moderately firm. When the seeds have been lightly covered in, throw over the bed a coating of fresh wood ashes. Thin out earlier plants as soon as ready to a distance of 3 or 4 inches. Afford dustings of soot and lime when the leaves are wet.

Spring-sown Onions.—Carefully bend over the tops, laying them all one way to hasten the ripening process. About a week afterwards they should be pulled up and turned over every two or three days that they may ripen off as quickly as possible. The harvesting of this crop requires much care. The keeping qualities of Onions depend largely on the degree in which they are matured and the care taken in handling them. Store the bulbs on a fine day, and lay them thinly where the air can ply about them freely, or they may be roped and hung up in any dry airy place. Make another sowing of winter Onions as advised in previous notes.

Potatoes. Owing to frequent rains and the absence of sun, the disease is appearing amongst late varieties, and the longer the tubers remain in the wet ground the worse they will become. Varieties that have finished their growth should be denuded of the haulm at once, and lifted as

soon as the work can be done in dry weather. Burn the haulm as soon as it is removed. Do not heap the tubers together thickly, but place them where they can be sorted over occasionally that infested tubers may be removed. Medium-sized tubers for planting next season should be placed thinly on shelves in any cool, airy place.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Preparing for the Planting Season.—Ground which it is intended to plant with fruit-trees in November, if cleared of summer crops, should be trenched forthwith. Bastard trenching is the best preparation for the soil, as by this method the best or top spit of soil is still kept at the top for the roots of the trees to start away in. If the soil is of a heavy nature, a liberal dressing of farmyard-manure, wood-ashes, and road-scrappings should be dug into the bottom spit as the work proceeds; and if stone fruits are to be grown, lime-rubble, at the rate of one bushel to the rood, should be added. Light or medium soils will not require wood-ashes, but may be much benefited if a dressing of slightly heavier soil be afforded. On no account should heavy clay be dug in, as it will not mix with the lighter soil.

General Work.—As the fruit is cleared from the bush-trained trees, take a digging-fork and point over the surface of the ground that is caked hard from much trampling by the feet. This will destroy the surface-rooting weeds, and allow the sun and air to penetrate the soil. Remove the mulching material from around all fruit-trees, unless they are carrying a heavy crop, in order that the sun-heat may the better assist in maturing the wood. Take advantage of wet days to get the fruit-room put in order, though I am afraid well-filled fruit-rooms will be very rare this season. Scrub the shelves with soft-soap and hot-water, and do any lime-washing that may be required.

Strawberries.—The soil being in excellent condition Strawberries should be planted out at once. Plant them firmly; and should dry weather set in afford them a slight mulch with litter.

FRUITS UNDER GLASS.

By T. H. C.

The Pine Stove.—The house containing plants carrying ripe or ripening fruit should be afforded a night temperature of 70° to 75°. Admit a little air in the morning when the temperature has commenced to rise, and close early in the afternoon, when with sun-heat the temperature may rise to 90° or 95°. A dry atmosphere is conducive to good flavour in the fruit, and it is essential to perfect ripening. Water with clear water only, but keep the soil on the dry side as the fruit approaches maturity.

Succession Houses.—From the time plants pass out of flower until the fruits commence to change colour, they may be afforded stimulants at each watering. Liquid manure obtained from the soakings of deer or sheep's manure, and for a change guano water, will be found excellent fertilisers, and should be applied in a tepid state. Winter-fruiting smooth Cayennes that were started last month will now be in flower, a dryer condition of the atmosphere therefore should be maintained; but do not allow the roots to lack moisture. The bottom heat may range from 85° to 90°, the night temperature from 65° to 70°, and by day 10° to 15° more, making the most of the amount of solar warmth there may be. Aim at securing a sturdy growth in young plants recently put into their fruiting pots, by giving them timely and ample ventilation upon every favourable occasion. At closing time slightly dew them overhead with the syringe, and in fine weather damp the paths frequently. The present is a good time to put in a batch of Queen suckers. Before potting them, make sure they are free of scale or other insect pests. Pot firmly in 5 or 6 in. pots in a rich, loamy compost. Plunge the pots in a bottom heat of 85° to 90° close to the roof glass. Afford shade during bright weather, and lightly syringe the plants in the morning and afternoon, also the walls and other surfaces of the propagating pit. The night temperature need not exceed 65°, but may rise by day

to 85°, with ventilation and plenty of moisture in the atmosphere.

Figs.—Trees in pots for producing the earliest forced figs next year should now have their growths in a well-ripened condition, and, provided they have been well hardened off under glass, they may be stood out-of-doors in a sheltered but sunny position. Keep the foliage free from insect pests, and give sufficient water to maintain the leaves in a fresh condition, but lay the pots on their sides during wet weather. Thin out the growths if they are in any way crowded, this being all the pruning necessary where systematic pinching has been carried out. Do not permit later trees in pots to carry more fruit in the second crop than they can bring to a serviceable size, as it is necessary that the trees should make good wood for the production of next year's first crop. When the roots need water, especially if the trees are old or bear heavy crops, afford them diluted liquid manure. Houses containing ripening fruit should be afforded a constant circulation of dry warm air, but do not let the roots suffer from dryness at this time.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Vallotas.—The flower-spikes are now developing, therefore afford the plants manure-water once or twice a week. They require all the sunlight possible, and are stood out-of-doors from July until the flowers open, in many gardens in this county, with satisfactory results.

Begonias.—Support leading growths of Gloire de Lorraine with neat stakes of green Bamboo or deal painted that colour. When the pots are full of roots afford the plants a little weak manure-water once each week. A weak solution of clear soot-water will keep the foliage a good colour. The plants being of more value after the middle of October, all flowers should be picked off during September, and the plants lightly syringed twice a day, to ward off thrips and mites. 'B. Dregei, a pure white species, makes a good companion for Gloire de Lorraine, and B. x President Carnot, a strong grower with rosy carmine flowers, is useful in early autumn. The variety Gloire de Sceaux may be shifted into 5 or 6-inch pots. These will flower after the turn of the year.

Cyclamen.—Within the next few weeks a sowing should be made of these useful winter-flowering plants. Sow in shallow pans, after carefully draining them. Place a thin layer of half-decayed leaves over the drainage material, then fill the pans to within an inch of the rim, with equal parts of sifted loam and leaf-soil, and silver sand. Make this moderately firm, and if it is too dry, apply water a few hours before sowing the seeds. Dibble the seeds in at distances of $\frac{1}{4}$ inch apart, and cover them $\frac{1}{2}$ inch deep. Place sheets of glass over the pans and shade them from the sun's rays. Afford a temperature of 60°, and in four to six weeks, when the seedlings have appeared, remove the pans to within a foot of the glass roof and keep the soil fairly moist. Plants standing in cold pits or frames and having their pots full of roots, may be fed once or twice weekly, pulling out from their base all flowers that push above the foliage next month. Pull the frame lights back during the night for the next few weeks if the weather should turn fine, but not if there are frequent rains.

Violets, for planting in pits or frames should have all runners cut off as they appear. The summer has been favourable to the plants, the frequent showers having kept them free from red spider. Plant them in their winter quarters early in the month of October.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Miltonia vexillaria, having had a short rest, has commenced to make new growth. The plants may now be repotted or top dressed according to their need. Carefully examine the plants before the work is commenced, and be sure each is quite free from insect pests. Small yellow thrips conceal themselves down in the interior of the young

growths, when it is almost impossible to eradicate them with brush or sponge. Plants so attacked should be fumigated at regular intervals, and occasionally dipped in some safe insecticide. It is not necessary to fumigate the whole house for the sake of a few plants; let those infested be carried to another house it is intended to fumigate. Before repotting a plant, take it out of the receptacle and shake the old potting material from the roots, removing all dead and decaying matter. Large plants that are unsatisfactory in the centre should be divided, and each piece potted singly, it being most difficult to keep them healthy in large masses for any length of time. The potting compost should be similar to that described in the Calendar for January 31st. Plants potted at this season should be placed in as small pots as possible, from which they can be shifted again in the spring. Afford water sparingly to plants that have been repotted; let it be applied through a can having a fine "rose." Stand the plants in a shady position in the Cattleya or intermediate house.

Sophranitis grandiflora, having started into growth, may be examined, and each plant treated according to its requirements. The species thrives well under similar conditions to those advised in a recent Calendar for the short-bulbed Odontoglossums, except that the Sophranitis should be suspended in the warmest part of the house. Never disturb the roots of Sophranitis unless it is really necessary, but top-dress the plants if the surface-material has become sour.

Cattleya citrina is totally unlike any other Cattleya in its habit of growth, the pseudo-bulbs, foliage, and its lovely sweet-scented flowers always droop towards the ground. The plants should be grown on blocks of wood or teak-wood rafts, with a little sphagnum-moss pricked in about the roots to help hold the moisture. Suspend the plants close up to the roof-glass in the cool intermediate-house. After a good rest which followed the flowering period, root action and growth have again commenced; therefore a more liberal supply of water will be needed, and the block and plant should be frequently immersed in the water-tank.

THE APIARY.

By EXPERT.

Work in the Apiary.—The beautiful weather we are having [written several days since. Ed.] is extending the honey season, and honey is still coming in from the second crops of Sainfoin and White Clover, to say nothing of large quantities of Charlock and wild flowers. Sections should still be given where necessary, but the district should be taken into consideration; for instance, where there is plenty of Sainfoin, White Clover, &c., as mentioned above, full crates of sections can still be given. When the sections are placed in the crates they should be wedged close up together to prevent the bees building such bulky sections, as you cannot get more in price for them; and in packing they are most awkward. The dividers should be scraped, whether they are tin, glass, or wood, as any small pieces of comb attached to them will induce the bees to build the sections on to them; this spoils the section for sale, to say nothing of the inconvenience. In other districts where the honey-flow is not so good, about twelve or fifteen sections should be placed on, and the half-full ones from the back should be placed in the front, to give the bees a better chance of filling them. Shallow frames should be extracted and closed up in the same way; the frames should all be returned to the hive, to allow the bees to clear them out dry, and the ones that are left closed up. In extracting, keep as far away from your apiary as possible, and close the doors to prevent the bees coming in. No honey should be exposed longer than is necessary. In taking off sections, as soon as you have enough to carry they should be taken away at once, taking care that the sections are placed the same way up as when taken from the hive. Destroy earwigs and wax-moth as soon as discovered. Replenish the water supply. Mark off your stocks which have given no surplus, and keep a look-out for driven bees for strengthening a little later.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR SEPTEMBER.

TUESDAY, SEPT. 1	Royal Horticultural Society's Committee Meet. Lecture on "Judging Cactus Dahlias." National Dahlia Society's Exhibition at the Drill Hall (two days).
THURSDAY, SEPT. 3	Alnwick Horticultural and Botanical Society's Show. Paisley Horticultural Society's Show (two days).
SATURDAY, SEPT. 5	Société Française d'Horticulture de Londres Meet.
WEDNESDAY, SEPT. 9	Royal Caledonian Horticultural Society's Show in Waverley Market, Edinburgh (two days). York Dahlia Show.
SATURDAY, SEPT. 12	Royal Botanic Society Meet.
TUESDAY, SEPT. 15	Royal Horticultural Society's Committee Meet. Lecture on "Edible Fungi." National Dahlia Society's Floral Committee Meeting at Drill Hall.
FRIDAY, SEPT. 18	Horticultural Show at Gothenburg, Sweden (five days).
MONDAY, SEPT. 21	National Chrysanthemum Society's First Floral Committee Meeting.
WEDNESDAY, SEPT. 23	Royal Botanic Society Meet.
THURSDAY, SEPT. 24	Irish Gardeners' Association Meeting.
TUESDAY, SEPT. 29	Royal Horticultural Society's Fruit and Vegetable Show and Conference in the Chiswick Gardens (three days). Gardeners' Dinner at Holborn Restaurant, 7 P.M.

SALES FOR THE WEEK.

MONDAY TO FRIDAY, AUG. 31 TO SEPT. 4—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30 o'clock.

THURSDAY NEXT—Consignment of *Lilium Harrisii* at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 3 o'clock.

FRIDAY NEXT—Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—61.2°.

ACTUAL TEMPERATURES:—

LONDON.—August 26 (6 P.M.): Max. 67°; Min. 50°.

August 27.—Fine, warm.

PROVINCES.—August 26 (6 P.M.): Max. 68°, Southern Counties; Min. 54°, North of Scotland.

Fruit Culture in Ireland. THE Irish Land Purchase Bill has been passed by the Legislature, and great expectations have been excited as to the scope of the measure and its results. This being a non-political journal, we can only venture to hope that at last the great Irish Land question may have been settled in such a way as to produce lasting benefits to the community; for these benefits must be felt over the kingdom; and one of these will probably be exemplified by a vast increase in the acreage of land set apart for fruit cultivation.

The fruit nowadays produced in the sister Island is certainly of a very high class, equal to any ever shown at the Crystal Palace. Confirmation of this was given at the great Fruit section of the International Exhibition held in Cork in October of last year. Of the six hundred and twenty-four exhibits by amateurs, gardeners, and growers, divided into sixty-six competitive classes, there was none that did not receive commendation, especially, perhaps, the groups twelve feet by four feet. The show was principally the work of the Irish Department of Agriculture and its indefatigable secretary, Mr. T. P. GILL; and he, together with all who have interested themselves in the subject of Irish fruit culture, are of opinion that no limit can be set to the extension of the culture, save that of the silver sea bordering the cultivated land. We believe it to be nearly capable of demonstration that wherever there is fixity of tenure in agricultural land, there fruit is grown—not always and necessarily for market, but to afford a change of dietary, a sort of relief to porridge and Potatoes; and with the addition to the menu the taste is at once elevated and becomes more refined. The consumer becomes less gross in his appetite—in short, all round a better man. We hope to see thousands of little farms, with their accompanying fruit quarters, and their added industries.

We have noted Mr. GILL's work in a very recent communication to a correspondent of ours. That gentleman says, "In a number of counties itinerant instructors are at work stimulating an interest in this industry (Fruit culture). A co-operative jam factory has recently been started through private enterprise at Navan, while the Government is undertaking an experiment on commercial lines in fruit-growing and preserving at Portadown."

Incidentally we may express the hope that vast areas now unprofitable, or nearly so, will be gradually afforested; but that, owing to the length of time that must elapse before it is remunerative, is a work to be undertaken by the State rather than by individuals.

In conclusion it should be noted that extension of industry ensures a stay of emigration to other lands, and so it may well be claimed that there would soon follow a rise in the population, in the amount in the savings-banks to the credit of the workers, also, not least, a great increase in the happiness of all classes. So Godspeed to the Irish Land Purchase Bill!

The Manuring of Market Garden Crops. We commend to all concerned the reprint from the *Journal of the Royal Horticultural Society* of a paper on this subject by

Dr. BERNARD DYER and Mr. SHRIVEL. It gives a summary of the results of eight years' experiments on various garden and fruit crops. One main object of the experiments was to ascertain whether the present use of very large quantities of dung in market gardening was warranted by results—that is to say, whether the proportion between the cost of production and the financial yield was as satisfactory as it should be.

Heavy dressings of dung at an average cost, say, of eight shillings the ton, are pre-

sumably wasteful, and better financial results would be obtained by using a smaller quantity of dung, supplemented by some suitable fertiliser. The general results of the extensive and varied experiments made during nine or ten years, and recorded in the pamphlet before us, go to show that the purchase of stable-dung in such large quantities is wasteful and extravagant. Farm-yard-manure is, of course, different. But, in any case, the use of dung can to a large extent be profitably supplemented by the admixture of certain chemical fertilisers. The chief value of the stable-dung is to improve the texture and condition of the soil. We have not space to notice in detail the record of the various experiments. We can only say that, with the exception of cereals, they relate to all the ordinary crops of the farm, the kitchen garden, and of the orchard.

The paper is full of information upon points of detail of the greatest moment to the farmer and gardener. To give one illustration only:—The dressing recommended for Strawberries is twenty-five loads of stable-dung (twelve and a half tons) per acre, with a dressing of phosphates and an early application of two hundredweight of nitrate of soda. The early period at which this crop can be marketed is a matter of much greater importance financially than the absolute weight of the crop. The dressing above recommended yields, on the average, not only the best crop, but the earliest. The figures given in regard to "President" Strawberry are very striking. We hope the reprint, which is issued by VINTON & Co., will have a very large circulation among gardeners and farmers.

We are so often asked to cite the quantities of fertilisers to be used on smaller areas than an acre that we reproduce the following calculations of weights of fertilisers for small plots:—

Our manurial applications are, for the sake of uniformity of comparison, calculated in quantities per acre. For readers who may wish to manure smaller areas than this, it may be convenient to give at once a short table enabling them to see at a glance what are the corresponding quantities for smaller areas of ground. We have therefore calculated the various dressings from 1 cwt. up to 8 cwt. per acre into their equivalent quantities for—

1 rood ($\frac{1}{4}$ of an acre).

1 square rod or perch ($\frac{1}{40}$ of a rood or $\frac{1}{160}$ of an acre).

1 square yard ($\frac{1}{484}$ of an acre).

The calculation of dressings per yard is only approximate, but it will be found convenient for the use of readers who wish to make experimental trials on a small scale, or to manure even a few yards of domestic kitchen garden.

The various equivalent dressings are as follows:—

Quantity per acre	Equivalent quantity per		
	Rood	Square rod or perch	Square yd.
cwt.	lbs.	lbs.	oz.
1	28	$\frac{7}{4}$	$\frac{7}{16}$
2	56	$1\frac{3}{4}$	$\frac{7}{8}$
4	112	$2\frac{1}{2}$	$1\frac{3}{8}$
6	168	$4\frac{1}{4}$	$2\frac{1}{4}$
8	224	$5\frac{1}{2}$	3

THE ROYAL HORTICULTURAL SOCIETY will hold a special exhibition of Dahlias on September 1 and 2, in conjunction with the National Dahlia Society, in the Drill Hall, Buckingham Gate, Westminster. At this meeting (unless by special arrangement and permission) only Dahlias can be shown, with the exception of flowers, fruits, &c., for certificate. All Dahlias, including those shown for certificate, must be left on exhibition until 6 P.M. on the second day. A lecture on "Judging Cactus Dahlias" will be given, on September 1, by Mr. C. G. WYATT at 3 o'clock.

At a general meeting of the Society held on Tuesday, August 18, twenty-five new Fellows were elected, among them being the Right Hon. Sir FRANCIS H. JEUNE, G.C.B., Col. T. H. SKINNER, and Dr. A. HENRY, making a total of 1,095 elected since the beginning of the present year.

Intending exhibitors at the Fruit and Vegetable Show to be held at Chiswick on September 29, 30, and October 1, can obtain an official entry form, together with schedule of prizes, on application to the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W. Entries for this show close on September 22. There will be a special tent for horticultural sundries. A cold luncheon will be provided on September 29, at which the Council, Judges, and the Committees will be present, and for which all interested in the show can obtain tickets (3s., including wine or beer) on application to the Secretary, 117, Victoria Street, S.W., before September 27.

May I ask you to say that the Council have consented to have a Sundries Tent at Chiswick, on September 29, 30, and October 1, in precisely the same way as they did at the last Holland House Show. Applications for space should be made to Mr. WRIGHT, Royal Horticultural Society's Garden, Chiswick, W.

THE GARDENERS' RECEPTION DINNER.—Mr. A. DEAN writes:—"The *Gardeners' Chronicle* has shown so much kind appreciation of the efforts of the Gardeners' Dinner Committee to make the coming dinner function a success, that I ask your kind consent to allow me through your columns to remind all, of either sex, who may desire to attend the dinner, that the date (Sept. 29) of the dinner and the Chiswick Show is rapidly approaching, and that tickets, of which the number is limited, should be secured early. It may interest many to learn that our grand old gardener, DEAN HOLE of Rochester, has secured a ticket and earnestly hopes to be present. We inserted in the circular so widely issued, at the suggestion of our chairman, Mr. OWEN THOMAS, a line referring to the possible fact that the coming show may afford a last opportunity for many to see the old Chiswick gardens. How little did we then think that possibility was so near! In not a few of the letters I receive from old gardeners, not only is that contingency dwelt upon, but there runs through them a vein of strong thankfulness that the Dinner has been organised to enable so many who are veterans in the noble army of gardeners once more to meet and to revive old associations, perhaps, too, for them for the last time. How fortunate are we also in having secured so distinguished a gardener-employer and horticultural patron as Mr. LEOPOLD DE ROTHSCHILD for our Chairman, for he will most gladly greet the gardeners of Great Britain! We trust that many gentlemen who know and appreciate gardeners and their worth will attend and support him. It will be an occasion long to be remembered, and who would be willingly absent? We trust to see many of our sisters as well as brothers in horticulture present. All communications should come to me at 62, Richmond Road, Kingston-on-Thames." A. Dean.

R. W. ADLAM.—We greatly regret to have to announce the death, on July 17, from malignant disease, of our Transvaal correspondent. During the war he took refuge at Port Elizabeth, but returned to Johannesburg before the guerilla war was quite stamped out. His account of the vegetation and of the country generally at that time is very interesting, and may be read in our columns, October 5, 1901. Here, too, he mentions how the trees in the Joubert Park had grown during his absence. His herbarium and library, including the *Gardeners' Chronicle*, were safe, for, as he said, "Your Boer loves to commandeer gold, but he has a rooted aversion for what makes gold, i.e., knowledge." The plants in the conservatories were not in such good condition, as they had been left in charge of a coolie who did not know a Palm from a Primula. The Orchids were in a miserable condition, and many valuable plants had vanished utterly. In spite of all this Mr. ADLAM wrote hopefully of the future, and, as we know, devoted himself energetically to the care and improvement of the Joubert Park, and to efforts to promote forestry and fruit-growing in the Transvaal. The Peach is mentioned as specially suitable for cultivation in that district. Those interested in knowing what other fruits will do in that country should read his article on the subject in our columns, April 5, 1902. Mr. ADLAM also contributed from time to time notices of rare or novel plants found by him, and was in communication with Kew, the Cambridge Botanic Garden, and other similar establishments. His death is a serious loss to Botany and Horticulture.

MR. LEWIS CASTLE.—The friends of this gentleman will sympathise with him in the death of his wife on the 22nd inst., in her forty-second year. She had been in ill-health for several years, but her condition became serious within the last two months. She was well known to a former generation of Kewites as the daughter of an old Kewite, Mr. W. GOSSETT, and was much interested in horticultural matters, rendering great assistance to her husband in his early career.

THE SENIOR CAMELLIA.—A recent number of the *Revue Horticole* contains a figure and a description of a Camellia growing in the Royal Park at Pillnitz, near Dresden. It formed one of four originally introduced by Father Camelli. In 1801 the head gardener planted it in the open, in a sheltered situation. It is now more than 100 years old, and is covered every year with a profusion of single red flowers. The bush is 8-50 m. (27 feet) through, and 26 m. (more than 84 feet) in circumference. It is protected in winter by a kind of movable shed, which can be slightly heated when required.

CIDER-APPLES IN FRANCE.—From official information we gather the following respecting the prospects of a cider-apple crop:—In Brest and district there are no Apples; in Morlaix about 75 per cent. less than the usual crop; Quimper, over; Concarneau and Quimperlé, in South Finistere generally, yield the largest crop; In the Quimperlé district it is about 70 per cent. of the average crop; Châteaulin, none; Department of the Côtes du Nord, none; Morbihan-Ploermel district are generally very bad crops; Vannes district not enough for local requirements.

ARISTOLOCHIA SIPHO.—This climber, with its broad cordate ovate leaves, is a capital plant for clothing pergolas and similar purposes, albeit its flowers are the exclusive property of the botanist and make no appeal to the ordinary lover of flowers. Every now and then the plant, for some reasons yet to be determined, changes the character of its foliage, and the big broad leaves are

replaced by long narrow lanceolate or even linear productions. It is a mere guess to say that this is due to unfavourable climatal conditions influencing the plant at a particular stage of its existence, but we have no other solution of the problem to offer, nor has Mr. DRIVERS, who kindly sends us illustrative specimens from Belvoir. The plant is somewhat subject to foliar vagaries. We have seen "pitchers" formed on the leaves, and frequently frill-like outgrowths as if it were a Scotch Kail.

CHANNEL ISLANDS.—STATISTICS OF THE POTATO CROP: SEASON 1903.—It will be seen that the prophecies as to the financial result of the crop have been justified by facts, the total value of exports being £475,888 17s. 6d. Only in one year since 1885 has there been a better result, viz., in 1891, when the amount realised was £487,642 1s. 8d. It should be noted that the number of tons exported (47,530) represents the net, and not the gross weight, a difference of 5,470 tons being thus accounted for. The busiest week was that from June 8 to June 13, when 10,025 tons, representing something approaching a quarter of the whole crop, was exported. The highest price obtained was £23 8s. per ton, and the lowest £4 11s. The total number of packages of Potatoes reached the surprising total of 1,086,262.

Date of Shipments.	1903.	Packages, and in Bulk.	Tons.	Average Weekly Price.		Weekly Totals.		COMPARATIVE STATEMENT.		
				£ s. d.	£ s. d.	£ s. d.	Year.	Tons.	Value.	
From April 1 to May 2...	...	8,895	175	23 8 0	4,095 0 0	48 524	1885	48 524	£319,464 3 4	
From May 4 to May 9...	...	23,809	555	16 0 8	8,417 10 0	1886	1886	64,820	309,155 6 11	
From May 11 to May 16...	...	40,064	1,700	15 5 6	25,967 10 0	1887	1887	50,073	423,888 18 10	
From May 18 to May 23...	...	72,829	3,120	13 6 6	41,574 0 0	1888	1888	60,988	242,109 11 8	
From May 25 to May 30...	...	101,648	4,100	13 0 0	53,300 0 0	1889	1889	62,700	264,153 15 0	
From June 1 to June 6...	...	179,420	7,300	10 12 4	77,013 13 4	1890	1890	66,810	293,681 9 2	
From June 8 to June 12...	...	214,584	10,025	9 4 2	92,313 10 10	1891	1891	66,810	487,642 1 8	
From June 15 to June 20...	...	153,182	6,770	10 1 6	68,407 15 0	1892	1892	57,782	376,535 15 10	
From June 22 to June 27...	...	188,018	8,800	8 19 10	79,126 13 4	1893	1893	60,605	327,365 13 4	
From June 29 to July 4...	...	84,614	3,800	5 4 0	19,200 0 0	1894	1894	64,583	462,895 10 6	
From July 6 to July 11...	...	23,137	1,350	4 15 4	6,434 10 0	1895	1895	53,555	435,192 0 6	
From July 13 to July 25...	...	3,144	165	4 11 0	750 15 0	1896	1896	56,227	402,274 9 10	
TOTALS...	...	1,086,262	47,530	.....	£475,888 17 6	1897	1897	63,040	398,269 0 0	
						1898	1898	54,012	415,172 0 10	
						1899	1899	53,750	320,001 15 0	
						1900	1900	66,625	387,364 15 0	
						1901	1901	47,530	475,888 17 6	

PHILIP BARBER,
Notary Public, Steamship Agent, &c., &c.

15, Mulcaster Street,
Jersey, August 13, 1903.

APPLE HELP FROM CANADA.—Learning of the deficiency in France, &c., the High Commissioner for Canada has informed our Board of Trade Department that in view of the considerable demand that will probably exist for cooking and for cider Apples, he has made inquiry of the Dominion Department of Agriculture a

Ottawa respecting the supplies available in Canada, to which the following reply was cabled: "Large quantities of cooking and cider Apples obtainable at about fifteen dollars for long box. Hand-picked stock, costing twenty dollars, would carry safer, owing to risk of deterioration in transit."

GARDEN AND FARM PRODUCE BY RAIL.—The carriage of agricultural produce by passenger train on the Great Eastern system appears to be growing in popularity, judging from the figures furnished us by the Traffic Manager. That gentleman informs us that in the first six months of the year the number of parcels carried was no fewer than 90,000, which shows, when compared with the 84,000 carried during the corresponding period last year, an increase of 6,000 parcels.

SWEET PEAS.—We have received specimens of the following meritorious novelties from Messrs. W. W. Johnson & Son Ltd., Boston.

Gladys Deal.—Robust habit; flowers three in a raceme; pale self lavender coloured; standard flat, scarcely notched.

Eastern Queen.—Clusters three-flowered; flowers self coloured, pale ivory coloured; standard rounded entire; wings large spreading.

Caprice.—Clusters three-flowered; flowers white flushed with pink, especially at the back of the standard.

Elfrida.—Clusters mostly three-flowered; flowers white flaked with rosy-purple, sometimes semi-double; standard rounded entire.

DAHLIAS.—Messrs. CANNELL send us some very handsome flowers of the so-called reflexed

scarlet, very large; *Madame Keller*, deep rosy-lilac, base yellow; *Beauty of Kent*, florets rich maroon with white tips; *Madame Lumière*, white with broad deep-rose stripes in the centre; *Mlle. Hélène Charvet*, very large white; *Germania*, of a beautiful shade of rose-pink, central florets yellow; *Count Stegen*—(we have not space to spell the Dutch name in full, moreover we are afraid to misspell it!), the flower is of a very peculiar shade of orange-brown; *Source de Fer*, deep scarlet with narrow yellow stripes; *Madame van der Dael*, flowers lilac, inner florets pale yellow or whitish.

HOLLYHOCK.—Sir HERBERT MAXWELL favours us with the following communication:—"Does anyone know the meaning of the word? you ask



FIG. 59.—CHAMPION GRAPE CLASS AT SHREWSBURY. (SEE P. 151.)

First prize exhibit from the Earl of Harrington, gr., Mr. Goodacre.

APPLE-CROP IN NOVA SCOTIA.—A correspondent writes:—"I have just been informed that the Nova Scotia Apple-crop promises to be more than satisfactory. According to official estimates, based on present indications, there should be a full crop of superior Apples, with a surplus of over 400,000 barrels for export, varieties and qualities being about as follows:—Nonpareil, 60,000 barrels; King, 50,000; Gravenstein, 50,000; Ribston Pippin, 40,000; Golden Russet, 30,000; Baldwin, 60,000; Rhode Island Greening, 30,000; other varieties, 80,000 barrels."

RHUBARB DAW'S CHAMPION.—Our attention has been called to the fact that the variety of Rhubarb illustrated in the *Gardeners' Chronicle* for April 14, 1900, is sometimes spelt incorrectly. The raiser's name, it appears, is "Daws," not "Daw." We hope that writers will be careful to put the apostrophe after the last letter, and thus respect our correspondent's legitimate susceptibilities:

type, which are becoming popular, particularly for church decoration. Just as the old show Pansies were killed, remarks Mr. CANNELL, by the big Belgian Pansies, so the show Dahlias are being ousted by the newer forms with flat, not incurved, florets. Everyone to his taste. For our part we shall not be sorry to see the end of the "lumpy, inelegant" flowers beloved of a generation of florists that is rapidly disappearing. Even the exquisite gradations of colour do not compensate for the hideousness of the form. Happily in the so-called reflexed type, as seen in the specimens before us, we have flowers that are acceptable both for colour and form. There has also been a tendency for some time past to exhibit these flowers in a less formal and more graceful manner than in the regulation boxes, and we trust this tendency will grow till the last remnant of ugliness disappears. Among the more beautiful forms sent us by Messrs. CANNELL are: *Jeanne Charmet*, lilac; *Souvenir de Gustav Douzon*

in your leader of August 22. Professor SKEAT has analysed it pretty closely upon severely scientific principles, and perhaps I may summarise his conclusions for the benefit of those who have not his etymological dictionary at hand. 'Hoc', genitive 'hoccas', was the Anglo-Saxon name for the Mallow. In middle English (A.D. 1200—1500) 'holihoc' and 'holihoke' appear in vocabularies as translation of the Latin 'Althea' and the old French 'ymalve.' From the last comes the modern French 'guimauve,' Marsh Mallow. 'Hoc' seems to be a word borrowed from the Celtic, the Welsh for Mallow being 'hocys.' The prefix 'holly' is misleading; it should be spelt with but one 'l,' being simply the adjective 'holy.' In MINSHEN'S *Guide into the Tongues* (1627) occurs 'Holie hocke, i.e., malva sacra' (the Holy Mallow). Although H. WEDGWOOD was not an authority on botany, he is worth quoting on this point. In his *Dictionary of English Etymology* (1872) he observes, 'The Hollyhock was doubtless

so called from being brought from the Holy Land, where it is indigenous." The first occurrence of the compound name in English certainly corresponds with the period of the Crusades." *Herbert Maxwell.*

DARLINGTON PARK.—We notice in the *Northern Star* an appreciative description of the features of the South Park at Darlington, which is under the direction of Mr. JAMES MORRISON.

BICOLOR CARNATION.—A short time ago we had occasion to note a Carnation with flowers of two distinct colours proceeding from the same stalk. Now Mr. JEFFERIES, of Oxford, sends us a

and other plants grouped to show the forms and their natural means of adaptation to a dry climate. The contrast with the deciduous trees is very striking. Near at hand, in a prominent situation on a raised mound, is a temple, the pillars of which support a domed roof, and of which the capitals are adorned, not with the classical Acanthus, but with the more locally appropriate Stag's-horn Fern (*Platycerium*), which is novel and equally effective. This temple is erected to the memory of the first Governor of Victoria, the Hon. Charles Joseph La Trobe, who in 1846 selected the site for these gardens. The material used for the construction of the temple

venience the *Nertera*, which, in the spring, I was obliged to lift and to replant further away. However, the *Nertera* did not appear to resent the disturbance, and is now covered with its charming little orange-red berries, as it has been during the last two summers. If the weather remains fairly open, many of the berries remain upon the plant until Christmas. Doubtless others grow *Nertera depressa* in the open, but I have myself failed to meet with it in gardens up to the present. All the plants on the ledge are growing in pure peat mixed with a fair amount of granite sand. *S. W. Fitzherbert, South Devon.*

ERYNGIUM AMETHYSTINUM.—I notice that in the article on "Seaside Gardening," p. 109, the



FIG. 60.—CHAMPION GRAPE CLASS AT SHREWSBURY. (SEE P. 151.)

Second prize exhibit from Messrs. D. and W. Buchanan, Kippen, N.B.

specimen in which the two halves of the same flower are different. The petals on one half are white with a pink picotee-edge, those on the other half are yellow with red edge and a few stripes of the same colour. We have on various occasions noted similar peculiarities, but never one more marked than that furnished by Mr. JEFFERIES.

was basalt, reduced to coarse powder mixed with cement, and while soft moulded into blocks and used as stone would be.

HOME CORRESPONDENCE.

NERTERA DEPRESSA.—This pretty little plant, which has a wide range over the mountain slopes of Australia, New Zealand, South America, Java, and other countries, has done well with me in the open for three years. It is planted on a ledge about 2 feet above the ground level, and faces north, being sheltered on the south by perpendicular rocks about 3 feet in height. It shares its ledge with *Shortia galacifolia*, *Ourisia coccinea*, and *Philesia buxifolia*, all of which are doing well, indeed the *Ourisia* is doing almost too well, for it has spread so that it threatened to incon-

name of this *Eryngium* is given as *E. amethystinum* (Oliverianum), conveying the impression that the two specific names are merely synonyms. *E. amethystinum* and *E. Oliverianum* are, however, two distinct species, and vary considerably in their habit. *E. amethystinum* (true) is a rare plant, and one that I have never met with in nurseries. It is often catalogued, but I believe, where that is the case, *E. Oliverianum* is almost invariably grown and sold under that name. In three nurseries I have met with *E. Oliverianum* labelled *E. amethystinum*. I possess both species, which differ so widely that the merest tyro, seeing them side by side, could not fail to discriminate between them. *S. W. Fitzherbert.*

CAMPANULA VIDALI IN THE OPEN.—I have a fine plant of this *Campanula* now in full bloom that is a very attractive sight. It flowered fairly well last season, the first year of its being

THE MELBOURNE BOTANIC GARDEN.

[See Supplementary Illustration.]

On various occasions we have spoken of the Melbourne Botanic Gardens, and the many improvements effected by Mr. Guilfoyle. The Supplementary Illustration issued with the present number shows a portion of the rock-garden, with *Dracenas*, *Agaves*, *Aloes*, *Opuntias*,

planted out, and I determined to experiment with it by leaving it undisturbed and unprotected in the ground through the winter. Rather to my surprise it endured the ordeal unharmed, not a leaf being injured. It is bearing thirty-three flower-spikes, the tallest being 35 inches in height and carrying 18 blossoms, while in all there are about 400 blooms on the plant. Its main stem is 9 inches in height and has a circumference of 4 inches. It is growing in a narrow border in front of a wall facing south-west. The long, white, drooping bells, which are very waxy and substantial in texture, standing out from the flower-stems on foot-stalks about 2 inches in length, some of which carry three blooms, have a pretty effect and give the plant a distinct character. Being a native of the Azores it is doubtful if even in the genial climate of South Devon it will brave many winters in the open. *S. W. Fitzherbert, Kingswear, South Devon.*

WEIGELA ROSEA.—In the early summer season of 1901 I had occasion to cut back two large bushes of this good old flowering shrub that were growing in front of the eastern windows of the house, and had somewhat overgrown the space allotted to them. I cut back all the strongest growths to about three eyes, with the result that they have made another break and produced a much finer lot of bloom than at the early and natural season. The present season I had occasion to treat the plants in the same way, with even better results; at the present time one plant has been well out for the past week, while at this season the flowers last much longer, and in the north-west suburbs of London, Harlesden, Craven Park. *G. A. Bromfield, 4, Newham Street, Bryanston Square.* [The flowers sent are finely developed. Ed.]

BLACK CURRANT.—Having grown the Giant of Boskoop for three seasons, in all of which it has proved most prolific, allow me to call attention to this new variety. Here it is a very strong grower, although the soil is cold and retentive. It seems particularly hardy, far more so than some others. It is a good bearer of very large black and sweet berries, and for this reason should prove good for the dessert. The bunches of fruit are somewhat short, but all, or nearly so, are of the same size, thus precluding waste. Indeed, so satisfactory has it proved that the other varieties will be discarded; though I intend growing Carter's Prolific, which is also of great merit, though more acid in flavour, and is undoubtedly a good bearer. William Lee's Perpetual has never borne a crop of fruit, all invariably being destroyed by the early frosts. This year the Black Naples fruits were unusually fine, though the flavour was far surpassed, as also was the size, by the Giant of Boskoop. *Harrison Weir, Poplar Hall.*

THE GARDEN-SHOW IN AUGUST.—This has been a wet and dripping, a cool and moist Holly-hock year. At Hampton Court they are (and have been) lovely now, single and double, and of nearly all shades. *Nymphaea gigantea* at Gunnersbury, and the Marliac Water-Lilies there, at Gravetye Manor, and at Kew Gardens, are the great floral sights of this August, so far as I have seen. The Bamboos at Kew also, like the Holly-hocks at Hampton Court, have enjoyed a climate that has spoiled Cannas and scarlet Pelargoniums. We cannot have everything at its best every season! The general average is good. Trees and shrubs I never saw better in gardens and parks everywhere than they are this year. *F. W. B.*

LAWN SAND.—My experience in the use of lawn sand may be of interest. On July 7, in the middle of the one dry period in this summer in the London district, I used it on a tennis-lawn at the rate of 4 oz. to the square yard, as recommended, in the hope of killing Daisies and improving the turf. The whole surface was temporarily browned, and now, six weeks later, after copious rains, there are still patches where the roots of the grass have been completely killed. A certain proportion of the Daisies have gone, but other weeds, such as *Ranunculus* and *Achillea*, have flourished exceedingly, and are much more numerous and ranker than on a second court on the same

stretch of turf which was happily left untreated. The court was in excellent condition for play in the early part of the season, but now hand-weeding and a fresh sowing of grass will be necessary, and there is little chance of its complete recovery by next spring. *E. S. R.* [The benefits resulting from the application of lawn-sand are not, as a rule, witnessed for some considerable time. At first ill effects often arise from the browning of the lawn in patches. A top-dressing of manure in winter, aided by a small proportion of fish guano, will do good. Nitrogenous manures, as a rule, improve the grasses at the expense of the weeds, but they should be used with discretion. Ed.]

POISONS.—The importance attached to the scientific study of agriculture and horticulture during recent years has naturally increased the demand for insecticides and fungicides for destroying animal and vegetable pests. Some of the chemicals used for these purposes, such as potassium sulphide, Bordeaux-mixture, lime and copper and ammoniated copper preparations, carbon bisulphide, white hellebore, tobacco-paper, kerosene emulsion, sulphur, ferrous sulphate, preparations of tar, quassia powder, and similar substances, do not come under the category of statutory poisons, and can be sold without restriction by anyone. A few, such as corrosive sublimate, Paris-green, white arsenic and its preparations, and potassium and sodium cyanides, come within the scope of the Pharmacy Act, 1868, and although these can be sold by wholesale to retail dealers if duly labelled with the seller's name and the word "poison," such substances cannot be sold by retail except by registered chemists—the persons specially trained to handle them—and then only subject to the strict regulations prescribed by the Pharmacy Act. *E. M. Holmes.*

HELIXINE SOLEIROLII.—This pretty moss-like Urticaceous plant, native of Corsica and Sardinia, is effectively used by Mr. J. O. Clarke, gr. to Ludwig Mond, Esq., for most of the purposes for which *Selaginellas* are generally used in plant-houses, and Mr. Clarke says that it is more adaptable and keeps better than any other plant of its kind. It is used to grow on the staging in the Orchid-houses, to fill in spaces in rockeries, for growing on the surfaces of jardinières, and for forming the ground-work of plant-covered walls. One cold house has the back wall covered with *Helixine Soleirolii*, its pale-green slender sprays forming an admirable setting for the *Begonias*, *Ficus stipularis*, *F. minima*, *Adiantums*, and other plants whose healthy condition, growing on the wall, is mainly due to the shade and moisture ensured by the pretty little dwarf plant which covers the surface. *J.*

CEREUS CANDICANS AND C. C. DUMESNILIANUS.—The above plants have again flowered this year with me—a rather unexpected thing, as they did so last year. The flowers are of a very similar nature, but the former is much the larger, and they are not so short-lived as some of the family. A much larger plant of the former, about 6 feet high, has never shown signs of flowering yet, but perhaps it will do so in time. *Cereus chiloensis* had two or more flowers—they, as a rule, flower yearly; the *C. c. Dumesnilianus* is setting a seed-pod, that may be worthy of notice perhaps when ripe, if it does ripen, but of no value, of course, to me at least. *J. C.*

OPEN SPACES AROUND HAMPSTEAD.—A few days since, I went over the newly acquired open space known as Golders Hill, and was agreeably surprised to find plants growing there that are more often to be found in greenhouses, especially around our famous city. Golders Hill is a charming spot, well and heavily timbered, the grounds undulating. There are several spots here where it would be impossible to imagine you were within 5 miles of St. Paul's—the Quick hedges, the wild Roses, the partially hidden duck-pond, the wild rabbits, birds of nearly all sorts, the Apple orchard, meadows ablaze with wild flowers, and not a brick or chimney-pot to be seen, but everything reminding the visitor of the quietness of country life. In the artificial part, immediately surrounding the mansion, which was the former

residence of Sir Spenser Wells, were some fine bushes of *Camellias*, which flower well; they were certainly full of vigour and robust, and were in several localities, and in each spot they looked well. On the mansion (which, by the way, has been partially converted into cloak and refreshment-rooms for the public) is a very fine *Clematis montana* and some good *Roses*, and in an old conservatory was a very old plant of *Acacia dealbata*, with a stem some 18 inches in circumference: the plant covered the roof. Several beds are filled with *Roses*, and these looked very vigorous, and I should say the soil is suited for Rose-growing. There are some fine *Hollies* and also a hedge of *Hollies*. In the grounds there is a very large Tulip-tree, *Liriodendron tulipiferum*, and one which must have been planted soon after its introduction into this country, judging by its size. In another spot there is *Ginkgo* (Maidenhair-tree) towering away, and yet strong and thoroughly established; some fine *Willows* are also in evidence, and I noted a small but nice example of *Abies Webbiana* and of *Picea Smithiana* which looked very pleasing and ornamental. Some herbaceous plants were dotted about in a border, which had a Sweet Briar hedge as a background; and near to a small pond, practically hidden by long grasses, reeds, &c., were some bog-plants, which were as much at home as they would be 100 miles in the country. In other places bulbs have been planted by the former owner, and in the season they must have looked charming, as also did a colony of *Bluebells*. Some nice pieces of *Rhus Cotinus* were noticed. In many instances one could observe that the superintendent, Mr. Palmer, was handling the place in a business-like way, and making many improvements without disturbing the natural conditions. On Hampstead Heath proper I noted some very large Willow-trees—in fact, they were the best I have ever seen. I had little time, but could have well spent a whole day. The beautiful scenes that all Londoners can enjoy are something remarkable. *W. A. Cook.*

THE FLOWERING OF BAMBOOS.—I owe an apology to Lord Redesdale for having misunderstood the facts of his note on the above subject, or rather for having mistaken them, owing to misquoting its substance during my absence from home. His lordship was so kind as to present us with "one *Arundinaria Simoni* from seed ripened in the open-air at Batsford in 1901," as also, "one *A. Laydekeri* from seed ripened in a Peach-house in 1902," and not with a *Phyllostachys nigra* seedling as I inadvertently stated in my communication in the *Gardeners' Chronicle*, August 8, p. 96. I should now like to point out that *A. Simoni* varies a good deal in the manner in which it flowers. Some individuals are practically all flower, viz., every growth upon them bears flowers, not alone the present year's side-growths from old culms, but even the growing basal growths also flowering. Such individuals, even if they recover ultimately, will suffer badly and be greatly weakened. Other clumps are only flowering on one or two out of many culms, and these, as I believe, may suffer very little or not at all. In some cases an enormous crop of heavy starchy seeds has been produced, but, as usual, "something else has also happened." Both mice and birds have eagerly availed themselves of the unwonted addition of Bamboo seeds to their food supplies. I do not know precisely what soil exists at Batsford Park, but here, on a light, warm, sandy alluvium, and near the dry and smoky air of the town, the fruiting clumps of *Arundinaria Simoni* look very brown and shabby indeed, very little new foliage having been produced this season. They look as though the whole energy of the plants has been diverted from vegetative growth to flowering and fruiting fertility. Plants that had culms heavily laden with plump oat-like seeds a fortnight or so ago have shed many seeds owing to high winds, but no doubt the bulk of the fruits have been devoured by grain-eating birds and animals. Now that so many species or varieties of Bamboos are becoming thoroughly well established in British gardens the chances are that every year some of them will flower and fruit, and it is quite possible that seedling and even hybrid variations may be raised; and it may be worth while to protect the seeds from being blown away by

rough winds, or from being stolen and eaten by birds and mice, as is pretty sure to happen if they are unprotected. *F. W. Burbidge.*

— In the *Gardeners' Chronicle* for August 8 there was an article on the flowering of Bamboos. I now enclose flowers taken from *Arundinaria Simoni* grown in the garden of O. O. Wrigley, Esq., Wansfell, Windermere. The plant looks very miserable, but it is now making a little new growth. This may interest your correspondent, *F. W. Burbidge*, and others. *Hy. Rothery.*

DR. BONAVIA AND THE FRUIT COMMITTEE.—

Some interest undoubtedly enters into the suggestions of Dr. Bonavia with respect to the palates of the members of the Fruit Committee and fruit-tasting at the Drill Hall. As I read the Doctor's criticisms I began to fear that he would invite the Council of the Royal Horticultural Society to furnish our table with claret, nauseous stuff, or some other chemical compound called wine, by the aid of which we might blunt nature's palates and provide artificial ones. Happily he stopped short of that proposal and fell back on Olives. I think we are perfectly capable of coming to a correct conclusion with respect to flavour in fruit without any such aids. What does Dr. Bonavia think of having to taste some twelve to twenty diverse Melons in succession, and yet in the end come to a right conclusion without any artificial aids? yet in so many fruits one may find just as many flavours. I notice at the table, where some twenty or more members may be present, and all possibly having somewhat different palates, yet if any fruit is good it is unanimously approved [and none left for the reporters to test. Ed.]. If it is not good, it is with equal unanimity objected to [and plenty left for the reporters. Ed.]. That shows that palates cannot be so corrupted by tasting diverse fruits as is imagined. I cannot say how far the smoking of tobacco may affect the palate, not being a smoker, but I know that if there be any excellences in fruit I am quick to select them, and I find other members do the same. Possibly all depends on what may be regarded as flavour. Thus we often have placed on the table Melons or other fruits, described as seedlings, which the senders pronounce to be of "fine flavour." Almost as often when so recommended the Committee find flavour entirely absent. I think it is this variable fancy, for it is little less, as to what constitutes flavour which exhibits the difference between the senders of fruits to the Drill Hall for tasting and the members of the Committee. With special reference to the Strawberry and Sultanieh Grapes, which Dr. Bonavia has at times placed before the Fruit Committee, do not the various opinions as to their flavours entertained by the Doctor and the Committee really lie in the fact that the flavours of ordinary Grapes, such as Muscat of Alexandria and Madresfield Court, for instance, are so different from what may be fitly described as the peculiar flavour of the Strawberry-Grape? The Sultanieh I was not present to taste on the 4th inst. Of the Strawberry-Grape the late Mr. A. F. Barron wrote "third-rate, but on account of its peculiar flavour and perfume is extremely interesting." It is no doubt that peculiarity in taste, which characterises the Sultanieh as much as the Strawberry, to which the Fruit Committee takes exception. I fear educating the members' palates up to the Strawberry-Grape standard is not possible. *A. Dean.*

STRAWBERRIES IN 1903.—The notes contributed by Mr. Bunyard (p. 70) are interesting and of practical value. They show the diverse behaviour of varieties on different soils. Many varieties that Mr. Bunyard recommends as doing well at Maidstone are almost worthless in these gardens. Royal Sovereign this season (doubtless owing to the wet) was very poor in quality. Young plants of this variety grow far too strong at Poltmore. The best returns are obtained from forced plants; young plants are only planted for supplying runners for forcing. The Laxton has not come up to expectations with me. It was a little firmer, and appears to crop better the first season than Royal Sovereign, and may prove better the second season. I am planting

all I can get for further trial. President is of little use with me, as also is Sir J. Paxton. Fillbasket has been better than I ever had it before; the colour is, I think, too pale, but it is a heavy cropper. Trafalgar I have discarded after three years' trial. Mentmore and Waterloo are other varieties I have ceased to grow. Latest-of-All is very variable, sometimes good, but does not colour well at the tip of the fruits. Mr. Carmichael's varieties I have grown, but they are not satisfactory in our soil; neither are Lord Suffield, nor Empress of India and Gunton Park. The two very best varieties I have in any season are Leader and Monarch. The last-named has a very brilliant surface, is a good traveller and an immense cropper. Leader beats it in size. Both these varieties are close and compact in growth. Until one has thoroughly tested the various Strawberries now listed, it is better to plant sparingly. *T. H. Slade, Poltmore Park Gardens, near Exeter.*

SPECIFIC NAMES.—Sir W. T. Thiselton-Dyer has evidently read my note on this subject hastily, and has misunderstood it. Mr. C. Wolley-Dod having instanced *Inula royleana* (with no capital letter for the patronymic adjective) as a form adopted in the orthography of the *Kew Hand-Lists*, I quoted *Erigeron Roylei* and other examples as not adhering to the rule, if rule it is, which cannot be admitted. If this variation on one name can be defended, I shall be glad to know on what grounds. If one example or the other is not a specimen of "carelessness in compilation or in proof-reading," what is it? The new *Kew Hand-Lists* need no praise. They are a monument of industry which must earn their right meed of recognition; but I do not see why criticism of typographical errors is necessarily "ungracious." The errors are facts or not facts. If facts, the compiler is surely as deserving of a word of criticism on the point as any lesser mortal. Sir W. T. Thiselton-Dyer asks me to show instances of inconsistency. Let me refer him to p. 3 of the *Herbaceous Hand-List*, where within a few lines of each other we find *Acæna Nova-Zelandiæ* and *Acantholimon assyriacum*, and to p. 415, where appear *Dracocephalum ibericum* and *D. Moldavica*, as a couple of examples. But if Sir W. T. Thiselton-Dyer will refer once more to my note, he will find that it was written in whole-hearted support of his general system of use and non-use of capitals, which has no less claim to being a good system because he or his workers have indulged in occasional lapses from it through "carelessness in compilation or in proof-reading." *H. M. Batson.*

CLUBBING IN BRASSICAS.—In an issue of the *Gardeners' Chronicle* published in March last I read an article by Mr. Massee, in which he recommended the use of gas-lime against clubbing in Cabbages. The garden here has been infested badly with the pest for a number of years, but I am pleased to say that the gas-lime, used according to the directions given, has completely destroyed it. *H. T. W., Carricklee.*

LATE-BLOOMING APPLES.—Is there not a possibility of creating a race of late-flowering Apples by working up and through Court Pendu Plat or any other late-blossoming kinds which may be in existence. This season, wherever I have seen Court Pendu Plat, the trees have been clean, healthy, and carrying a reasonable crop of fruit. The late-flowering habit of this variety is, of course, well known and appreciated, but so far as I am aware no one has tried systematically by intercrossing with other kinds to create a race of late-flowering Apples. I have never until now had a cool house I could spare for the work. My idea is to give up a small orchard-house to Apple-trees in pots, of only a few kinds, Court Pendu Plat being one; the others to be selected from such free-bearing kinds as Bismarck, Stirling Castle, Lane's Prince Albert, Lord Suffield, Bramley's Seedling, &c. By growing the trees in pots it would be comparatively easy to retard the early-flowering trees, and to hasten the flowering of Court Pendu Plat by keeping the trees under glass. The idea is, of course, to manipulate the blossom with the scissors and camel's-hair pencil under glass until the fruits are set. Afterwards the trees may be plunged

outside. What I should be glad to know through the columns of the *Gardeners' Chronicle* is what (if anything) has been done in this direction. And as it would be (if it works out right) a national benefit to induce others who can attend to the trees, and can spare a house for them, to take the matter up, will the Editor kindly say what he thinks about it—and oblige many readers besides *Edward Hobday, Cambridge.* [We can but express general approval of the project, reserving our opinion as to details till another opportunity. Ed.]

FLORISTS' FLOWERS.

CARNATIONS AT WRETHAM HALL GARDENS, THETFORD.

ON the occasion of a recent visit to Wretham, I observed some remarkably fine blooms of Carnations. In one large span-roofed greenhouse there were on view about 1,200 plants, which bore evidence of having flowered abundantly, and were still making a fine display. Among these were King Arthur (a very large scarlet), Asphodel (a striking rosy-pink), and the lovely yellow Cecilia. Mr. Henley, the head gardener, also drew my attention to Horsa, Raphael, Champion, and Hildegard, all very beautiful. The plants are robust, and showed unmistakably the care and skill bestowed upon their cultivation.

In another house were some plants of *Souvenir de la Malmaison* Carnation in fine condition, among which in fine form were observed the varieties Nell Gwynne and Mrs. Everard Hambro. Flowering outdoors were 400 seedlings of border varieties, some of them of great promise. The owner of Wretham, S. Morris, Esq., is an enthusiastic horticulturist, and besides Carnations, which form a feature of the garden, he appreciates stove plants, Chrysanthemums, and hardy herbaceous perennials. *E. C. Parslow, Shadwell Court.*

TRADE NOTICE.

CHANGE OF TITLE OF FIRM.—Charles E. Livingston, of 127 and 129A, High Street, Dunfermline, N.B., has found it necessary, owing to a largely extended business, to take into partnership Mr. Thomas White, late manager of an Edinburgh firm. On and after July 20, 1903, the business will therefore be conducted under the style of Livingston & White.

LAW NOTES.

DISPUTE ABOUT SEED PEAS.

At the Redhill County Court on the 19th inst., before Mr. Manning, the Surrey Seed Company sued Clinton G. Hart, of 35, Nightingale Lane, London, E., for £2 17s. 7d. in respect of goods supplied. Mr. F. J. Flitton, secretary of the Company, stated that the defendant sent his firm an order for 4 bushels of King William I. Peas, which were forwarded to him. Defendant refused to accept delivery and the Peas were returned, but witness would not receive them, and they were now in the hands of the railway company. Defendant stated that the Peas which were sent were not according to order, contending that they were Early Green Kenilworth. He also submitted samples of King William I. Peas as supplied by Messrs. Webb & Co. and Messrs. Carter & Co., which he contended differed very materially from the Peas supplied. Mr. Flitton contended that what defendant expected was King William I. "Special" or "Improved." His Honour gave a verdict for the defendant with costs.

HORTICULTURAL SOCIETY'S BALANCE.

In the Wycombe County Court, Judge Marten had to decide the ownership of a balance of £180

in the hands of the treasurer of the late West Wycombe Horticultural Society. The society ceased operations two years ago rather than comply with the wishes of the lord of the manor, Sir Robert Dashwood, who declined to grant the use of his park for the annual show unless the tent for the sale of intoxicants was abolished. One of the members of the society entered a friendly action against the treasurer, and the Judge decided that the balance should be divided equally among all who were members at the time of the winding up. Another society, minus the objectors, has since been formed, and the wishes of the lord of the manor have been complied with.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

AUGUST 18.—*Present*: Dr. M. C. Cooke in the chair; Messrs. Holmes, Odell, Gordon, Michael, Saunders, Bowles, Douglas, Worsley, and Dr. Masters.

Ortles excelsa.—Mr. HOLMES showed a specimen of the bark of this Australian Protead, remarkable for containing aluminium succinate. The nearly allied *Grevillea* contains no aluminium.

Rubus roseifolius.—Mr. ODELL showed flowers and fruit of this *Rubus*, which has pinnate foliage of a light green colour, white flowers, and scarlet fruit.

Protijerosus Cucumer.—Dr. MASTERS showed a remarkable specimen, in which from one fruit a second one had sprung, longer than the parent. This was from a specimen probably akin to those showing remarkable outgrowths of flowers from the axial part of the fruit, exhibited on a former occasion.

Hymenocallis Harrisiana.—Mr. BLISS sent bulbiform seeds of this plant in process of germination, which were referred to Dr. RENDLE for examination and report.

Viola Disease.—Specimens sent by Mr. BACON were referred to Dr. COOKE for examination and report.

Apple-tree, scorched.—A further letter was read from Mr. Dowson relating to Apple branches shown at the last meeting. The dead bark does not peel off on the south side only, as it would do from sun-scorch, to which the mischief had been attributed, but on the north side also. Lightning was suggested as the probable source of injury, as no fungus could be detected.

Vine-leaves discoloured.—Leaves were sent from Worthing affected with red-spider. There were traces of Honey-dew and of Smut-fungus (*Capnodium*).

Cucumber scale.—Dr. COOKE showed further specimens of Cucumbers affected with *Cladosporium scabiei*, which will shortly be illustrated in the *Gardeners' Chronicle*. A close atmosphere is favourable to the spread of these fungi, whilst a current of air is prejudicial to them. This has been observed by growers in the case of Tomatoes affected with *Cladosporium*.

Peas.—Mr. WORSLEY showed specimens of late Peas rotting near the base, whilst the foliage above turns brown and shrivels. This condition is very common this autumn, and is probably due to excessive moisture at the root.

THE FRUIT AND VEGETABLE COMMITTEE AT CHISWICK.

BEANS, MARROWS, AND MELONS.

AUGUST 24.—A meeting of the Fruit and Vegetable Committee was held at Chiswick on the above date.

Present: H. Balderson, Esq. (Chairman), and Messrs. C. Beckett, J. Willard, G. Wythes, H. Esling, G. Kelf, S. Mortimer, and A. Dean.

As the number of the Committee present was one short of the needful quorum only recommendations to the full Committee of Tuesday next at the Drill Hall could be made. These included a First-class Certificate to that fine Kidney Bean, hitherto without an award, although one of the best in commerce, Canadian Wonder, here very fine indeed, sent by Messrs. Sutton & Sons, Dobbie & Co., and J. Sharpe & Co. An Award of Merit was recommended to Dwarf Bean Reliance, a compact and most abundant cropper (Sutton & Sons); Kingston Gem, a green, long-podded variety and a great cropper (Dean); and to Wythes' Early (G. Wythes), an early and very prolific variety. The Runner Beans of the rough or scarlet-flowered section were remarkably good, growth being first-rate. Of these Awards of Merit were

advised to Champion (Dobbie & Co.), a heavy cropper carrying long pods, and to Best-of-All (Sutton & Sons), also a superb podding variety. A similar award would have been advised to Prize-Winner, but it had previously been given. All the smooth-podded section of Runner Beans have done badly, evidently finding the weather too wet and cold.

Among Vegetable Marrows, which have largely suffered from the cold nights and heavy rains, awards were recommended to Defiance (Jas. Veitch & Son), a round green form, and to the Sutton Marrow, small oval white, very early and prolific.

Mr. G. Wythes brought bunches of the Japanese Wineberry to show its abundant fruiting properties, also a fine seedling Melon named Wythes Duchess, flesh very thick, smooth, and deep scarlet in colour, with green rind. It was the product of crossing Best-of-All with Syon House. Mr. G. Kelf, Regent's Park, showed a fine yellow-skinned and prettily netted Melon, having salmon-coloured flesh, named Regent's Park, the produce of crossing Frogmore Scarlet with Blenheim Orange; flesh thick and of delicious flavour. Awards of Merit were recommended for these two varieties. Considering the general conditions of the weather, and sunlessness, these two Melons seemed to possess in such a season exceptional merit.

Although rain fell heavily both morning and afternoon, the latter especially, making the gardens almost like a stream, the Committee were fortunate in finding a dry interval for their purposes. Had but one or two other members braved the weather as those present did, a full quorum would have been furnished.

WILTS HORTICULTURAL.

AUGUST 12.—The annual summer exhibition was held in the grounds of the Bishop's Palace, Salisbury, and was in every respect a successful one. Plants, if not so numerous as in some past years, were of excellent quality.

For a miscellaneous group for effect, 11 feet by 9 feet, Mr. A. Robey, gr. to Colonel Loyd, Hanham Cliff, Salisbury, was a good 1st with suitable plants not too closely arranged; Mr. A. G. Bedford, East Hanham Nurseries, Salisbury, was 2nd. For nine specimens Mr. G. Hall, gr. to Lady Ashburton, Melchet Court, Romsey, was 1st with grandly flowered specimens of *Allamanda Hendersoni*, *Bougainvillea glabra*, and one of *Cycas revoluta* in perfect health; *Kentia Belmoreana* and *Cocos plumosa*. Mr. Hall also won for six exotic Ferns with beautiful examples of *Davallia Mooreana*, quite 8 feet in diameter, *Microlepia hirta cristata*, and *Adiantum trapeziforme*.

Mr. J. Rockett, gr. to E. F. PYE-SMITH, Esq., Salisbury, was awarded the premier prize for six specimen Coleus, staging plants with brilliantly coloured foliage and trained in convex form.

Cut flowers were remarkable for numbers. For twenty-four Roses, Mr. Neville, gr. to F. W. FLIGHT, Esq., Cornstiles, Twyford, Winchester, was easily 1st with handsome blooms, having regard to the recent bad weather for Roses. His finest were Bessie Brown, A. K. Williams, Marie Baumann, and Souvenir de Pierre Notting. Dr. SEATON, Lymington, was 2nd.

Dahlias were numerous, and Mr. J. BRYANT, Salisbury, was an easy 1st with twenty-four blooms, distinct. Mr. J. MILLER, Shenfield, was 1st for twelve show or fancy varieties, with large, shapely flowers.

Mr. NEVILLE easily secured the 1st prize for twelve bunches of Pompons, six of each, compact blossoms of varieties having decided colours.

Mr. J. Page, gr. to Miss SKYMOUR, Knowle House, Salisbury, was 1st in a keen competition for eighteen cut flowers; and for twelve Mr. H. Brown, gr. to the Hon. K. WYNDHAM, was 1st.

Carnations and Picotees were splendidly staged by Mr. NEVILLE, who secured the leading award for eighteen, having very handsome flowers of Dorothy, Mrs. F. A. Flight, Amphion, Gil Polo, Heather Bell, Bertha Nut-hall, and Countess Verulam.

Sweet Peas were plentifully exhibited. For twenty-bunches, Mr. A. MAPLE, Aldermoor, Shirley, was 1st with typical examples of leading varieties; and Mr. A. C. JONES, Exeter House, Salisbury, was 1st for twelve bunches with even better flowers than in the larger class.

Table Decorations are made much of at Salisbury. Miss M. CAREY, Stratford-sub-Castle, won the coveted place with an arrangement of dark Roses which was quite striking in effect. Mr. R. H. JEFFERY, Nursling, had an arrangement of Orchids, Lily of the Valley, Francoa, Asparagus Sprengeri, &c., all of which were tastefully arranged, and deserved a better position.

Fruit was abundant in quantity and good of quality. For a collection of eight kinds Mr. HALL was 1st with very grand productions, especially Black Hamburg Grapes, Sea Eagle Peaches, and Pineapple Nectarines; Mr. W. MITCHELL, gr. to J. WILLIS FLEMING, Esq., Chilworth Manor, was 2nd. Black Hamburg Grapes in the class set apart for this variety were splendidly shown by Mr. MITCHELL, who was 1st without the

shadow of a doubt; as were also his Madresfield Court Grapes in the three bunch class for any other black variety. Melons were excellent, the variety Windsor Castle from Mr. ROBEY taking the 1st place. Sea Eagle Peaches were of huge size and finely coloured, winning for Mr. MITCHELL the 1st prize.

Non competitive Exhibits were attractive. Messrs. B. LADHAMS, Ltd., Shirley, Southampton, had hardy cut flowers in large quantity, among which Gaillardias were extremely fine. Mr. M. PRICHARD, Riverslea Nurseries, Christchurch, had a huge collection of a similar character, the *Gladiolus* of the Nanceianus, Childsii, and Lemoinei types being especially noteworthy.

ROCK FERRY HORTICULTURAL.

AUGUST 13.—Mrs. Paterson generously set apart a portion of her pretty garden for this exhibition, and instead of the overcrowding so noticeable last year there was ample space to stage the excellent show.

The groups of plants were arranged in square form. Dr. COOKE, The Brook (gr. G. Osborne), won the 1st prize in the larger class; 2nd, Mr. H. OGDEN. The smaller class was won by Mr. G. ATKIN (gr. H. Morris).

For six stove and greenhouse plants, Dr. COOKE was 1st with excellent specimens of *Bougainvillea Sanderiana*, *Acalypha Sanderiana*, *Allamanda nobilis*, and *Crotona Redii*, *Cheloni*, and *Weismannii*. Exotic Ferns were of fine quality from Mr. E. EVANS (gr. C. Jones); and there were handsome *Begonias* from Mr. ROBEY.

The gardens of the district are rich in herbaceous plants, and the competition in classes for these was keen. Mr. J. LEE won 1st prize.

Cut Roses were excellent. The 1st prize was won by Mr. R. KELLOCK (gr. R. Jones).

Cactus Dahlias lacked interest owing to their being unnamed; this want of attention was noticeable throughout the show.

Fruit was of the highest merit. Mrs. PATERSON (gr. T. Ferguson) won 1st prize for a collection with Muscat and Black Hamburg Grapes, Royal George and Stirling Castle Peaches, Pride of Stourbridge Melon, and Pineapple Nectarines.

The vegetables possessed excellent quality, the principal prize-winner proving to be Mr. H. D. TRE-LAWNY, Shotwick Park, Chester (gr. J. Clarke), who won 1st prize for a collection. *Orchid*.

LEITH HORTICULTURAL.

AUGUST 14, 15.—The twentieth show of the Leith Horticultural, Industrial, and Sports Society was held at Hawkhill Grounds on the above dates. The show was one of great merit, all the classes being well filled, the entries totalling 1071, and entirely filling the large marquee which in former years contained both the flower show and the industrial exhibition section. Competition was perhaps strongest in the classes for plants and cut flowers.

A class which usually excites great admiration is that for floral designs open to florists in Edinburgh and Leith. A much-admired design which was worthily awarded 1st prize was a beautiful cross and pedestal composed mainly of dark-purple Sweet Peas, the cross being relieved by white Sweet Peas and Lily of the Valley, while the pedestal made an exquisite background for a cluster of Stephanotis, pink Carnations, and Ferns. In all sections for tables of plants there were exhibited a standard of excellence which would have done credit to the Waverley Market shows.

In the class open to all for a table not to exceed 12 by 6 feet, arranged to produce artistic effect, 1st prize (a Silver Cup value £10) was easily won by Mr. Wm. JOHNSON, nurseryman, Portobello; Mr. PHILLIPS, Granton Road Nursery, secured the 2nd place.

In the Gardeners' Class for the best-arranged table of plants, Mr. A. ALEXANDER, Craigend Park, Liberton, took the 1st place; the 2nd prize being awarded to Mr. P. HUNT.

The Amateur section for tables of plants 8 feet by 4 feet, brought forward a large number of entries, and the competition was keen, the 1st prize, "Thos. Mackie Memorial Cup" (presented by Provost McKie), Gold Badge and £2, being secured by W. J. BRYSON, 53, East London Street.

For twenty-four Rose blooms, open to nurserymen, there were fine entries, the 1st Prize (Gold Medal) going to Messrs. DAVID W. CROLL, Dundee; 2nd, Silver Medal, to Messrs. HUGH DICKSON & Co., Belfast.

There was a fine display of Violas and Pansies (show and fancy) from Mr. JOHN DOWNIE, Beechill Nurseries (Silver Medal).

May Mr. FAIRLEY and his able assistants long enjoy the success which their enterprise merits! *Edina*.

CROYDON HORTICULTURAL MUTUAL IMPROVEMENT.

At a recent meeting of the members of this Society, a paper on "Orchard and Bush-fruit Pests and How to Combat Them" was read by Mr. A. Maslem, Bramley Hill House Gardens, and proved to be of great interest and practical utility. In the discussion that followed several interesting questions of detail were debated.

NATIONAL CARNATION AND PICOTEE.

(Northern Division.)

AUGUST 15.—This show was held at the Botanical Gardens, Manchester, but rain fell so continuously as to prevent the attendance of many visitors.

The show was better than had been anticipated, the chief exhibitors being Messrs. A. R. Brown, Birmingham; C. T. Thurston, Wolverhampton; T. Lord, Tordmorden; J. W. Bentley, Stakehill; D. Walker, Kilmarlock; J. Edwards, Moston; E. Kenyon-Shuttleworth, C. T. Budenberg, Marple; Messrs. Pemberton & Son, Walsall; and the Rev. C. A. Gottwaltz, Droitwich.

Twelve Carnations, Bizarres and Flakes, White Grounds.—This was a fine competition, Mr. T. Lord winning with capital flowers of J. S. Hedderley, Master Fred, Geo. Melville, Sportsman, Arline, Admiral Curzon, Mrs. T. Lord, Sarah Payne, Miss C. Graham, C. F. Thurston, Mrs. Shaw, and Gordon Lewis. 2nd, Mr. J. W. BENTLEY.

Six Bizarres and Flakes.—Six boxes were staged, Mr. J. Moston being 1st with J. D. Hextall, Pandora, R. Houlgrave, Gordon Lewis, Sarah Payne, and C. F. Thurston. 2nd, Mr. J. BROCKLEHURST.

Twelve Picotees, White Grounds, dissimilar.—The flowers in this section were of the finest type and purity. Mr. C. F. THURSTON was 1st with Mrs. Holder, W. H. Johnson, Pride of Leyton, Ganymede, Little Phil, Mrs. Gorton, Mrs. Openshaw, Brunette, Favourite, Thos. Williams, Henry Kenyon, and Lady Louise. 2nd, Mr. A. R. BROWN.

Six Picotees, White Grounds.—Ten boxes were staged, Mr. J. EDWARDS taking honours with a charming set—Mrs. Openshaw, Mrs. Beswick, Little Phil, H. Kenyon, Lady Louise, and John Smith; 2nd, Rev. C. GOTTWALTZ.

Twelve Selfs, not more than two of a variety.—Mr. A. R. BROWN led with perfect flowers of Avalanche, Bomba, Cadet, Snowdrop, Agnes Sorrel, Jenny Gough, Miss Alley, Snowdrift, R. Dean, Germania (2), Sir Bevy, and Teddy Galton; 2nd, Mr. C. F. THURSTON.

For six Selfs, the Rev. C. GOTTWALTZ was 1st.

Twelve Fancy or Yellow Ground Carnations or Picotees.—This was probably the finest class in the show, Mr. C. F. THURSTON's 1st prize flowers being superb, consisting of Queen Bess, C. B. Thomson (2), Daniel Defoe (2), Czarina, Charles Martell, Argosy, Artizan, Diva, Countess Verulam, and Lady St. Oswald; 2nd, Mr. A. R. BROWN.

Six Fancy or Yellow Ground Carnations and Picotees.—Mr. D. WALKER's stand was a model of neatness. The varieties were Edith, Helios, H. Falkland, Paladin, Gronow, and Charles Martell.

The single bloom classes brought out many choice flowers, perhaps the most handsome being the purple flake Carnations and the heavy-edged red and purple Picotees.

The best scarlet bizarre was Robert Houlgrave; the best crimson bizarre, Master Fred; the best pink and purple bizarre, T. Lord; the best scarlet flake, Sportsman; the best rose flake, Mrs. Rowen; the best purple flake, Gordon Lewis.

Picotees.—The best heavy-edged red was J. Smith; the best light-edged, Mrs. Gorton; the best heavy-edged purple, Mrs. Openshaw; the best light-edged purple, Pride of Leyton; the best heavy edged rose, scarlet, and salmon, Mrs. Payne; and the best light-edged rose, scarlet, or salmon, Lucy.

Mr. J. EDWARDS had the Premier Carnation in J. B. Hextall, crimson bizarre; and Mr. A. R. BROWN, the best Picotee in Myra, a medium purple edge, and certificates. Certificates were granted the Rev. C. GOTTWALTZ for Myra and Lucy (a light-edged scarlet); and to Mr. B. SIMONITE, for Aurora, a heavy-edged rose.

TROWBRIDGE HORTICULTURAL.

AUGUST 19.—The fifty-fourth annual exhibition was held in the Flower-show Field, a large plot of land close to the railway-station, left by the late Mr. William Stancomb, the Lord of the Manor, to the Horticultural Society, on condition that a flower-show should be held at intervals of not more than three years, the field being vested in trustees, who are the magistrates of the town. The weather was fine, and there was a very large attendance.

The show all round was a remarkably good one; the Fuchsias, which were much in advance of any seen in other parts of the country, were a little under the Trowbridge mark, owing to lack of sunshine. There was a good display of Fruit, also of floral decorations; while the Vegetables were, on the whole, numerous and fine. There are many allotment gardens about Trowbridge; they are well cultivated, and the produce from them is always of a high order of merit.

Fuchsias always occupy the first place in the schedule of prizes. The best six plants came from Mr. H. POCOCK, Florist, Trowbridge, who had, of dark varieties, Brilliant, Dod's Favourite, and Charming; light, Arabella, Favourite, and one unnamed. Mr. GEO. TUCKER, Florist, Hilpertion, was 2nd. With four specimens, Mr. TUCKER came 1st, and Mr. POCOCK, 2nd.

Stove and Greenhouse Plants.—Mr. W. J. MANN, Trowbridge (H. Matthews, gr.), was 1st with well-grown and bloomed specimens, chief among them a fine example of *Ixora Pilgrimii*, one of *Rondeletia speciosa* major, also of *Erica Eweriana*, elegans, E. Irbyana, *Bougainvillea Sanderiana*, &c.; Mr. GEO. TUCKER was 2nd.

The best specimen foliage plant was a fine *Kentia* from Col. VIVIAN, Rood Ashton (gr., W. Strugnell); the best specimen flowering plant, *Stephanotis floribunda* from Mr. MATTHEWS.

Some excellently grown and flowered Zonal Pelargoniums were staged by Mr. GEO. TUCKER. Heath was shown in nice-sized specimens by Mr. H. MATTHEWS, and Mr. GEO. TUCKER also.

Gloxinias were very good from Mr. TUCKER (1st); Messrs. W. J. STOKES & SON, Hilpertion, were 2nd.

Begonias were a very fine feature. Mr. H. FRY, Trowbridge, was 1st with six doubles and also with six singles, showing finely-grown specimens of excellent quality; Mr. W. P. CLARK, Trowbridge (gr., T. Tistock), was 2nd.

With four *Orchids* Mr. E. VINER, Frome, was 1st, he had nice plants of *Cattleya Gaskelliana*, C. Harrisoni violacea, *Vanda cœrulea*, and *Dendrobium Schroederi*; Mr. J. F. HALL, Wells, was 2nd, he had a piece of *Vanda cœrulea* in fine character.

GROUP OF PLANTS ARRANGED FOR EFFECT.

in two classes were bright and effective, but too much crowded; fewer plants would ensure a better effect with careful placing. Mr. ATCHLEY was 1st in the larger class, and Messrs. J. CRAY & SON, 2nd. In the smaller class Mr. J. KEMP was 1st, and Mr. ATCHLEY 2nd.

Some excellent Ferns were shown in twelves. Mr. A. P. STANCOMB, the president of the Society, was 1st with gold and silver Gymnogrammas, a very fine *Davallia Mooreana*, a beautiful specimen of *Gleichenia rupestris glauca*, *Adiantums*, &c.; Messrs. W. J. STOKES & SON, Trowbridge, were 2nd. *Caladiums* were shown by Mr. J. KEMP and Messrs. DAVIS & SON, Yeovil. *Coleus* were in the form of good brightly coloured bushes. Messrs. J. CRAY & SON were 1st, and Mr. H. MATTHEWS, 2nd.

CUT FLOWERS.

In this department Asters, Roses, Dahlias of all types, hardy flowers, annuals, and stove and greenhouse species were good. Mr. W. J. JONES, Bath, took the 1st prize for twenty-four quilled Asters, also for the same number of Victorias and Comet types, all very much finer than could have been expected, the quilled especially.

With twelve varieties of Roses shown in threes, Mr. J. MATTOCK, nurseryman, Oxford, was 1st; Messrs. PERKINS & SON, Coventry, were 2nd. For thirty-six single blooms Messrs. PERKINS & SON were 1st; and Messrs. TOWNSEND & SON, 2nd. For twenty-four varieties, Mr. J. MATTOCK 1st, and Messrs. TOWNSEND & SON 2nd. For twelve varieties Messrs. PERKINS & SON were 1st. Messrs. TOWNSEND & SON were 1st for twenty-four Teas; and Messrs. PERKINS & SON, 2nd.

Messrs. GEO. COOLING & SON, Bath, were 1st in a class for eighteen bunches of garden Roses, with very fine and striking bunches of Madame Falcot, Mdle. de Massing, Corallina, La France, Gruss an Tepitz, Sairano, Irish Beauty, Madame Pernet, Papa Gontier, &c.; Mr. J. MATTOCK was 2nd.

With twenty-four bunches of hardy flowers, Messrs. J. STOKES & SON were 1st, showing a very fine lot.

With twelve show Dahlias, Messrs. J. CRAY & SON were 1st, having excellent blooms; Mr. G. HUMPHRIES, Cheltenham, was 2nd.

Messrs. CRAY & SON, who are undoubtedly coming to the fore as cultivators of Dahlias, were 1st with twelve very good fancy varieties; and Mr. J. WALKER, 2nd.

Single Dahlias were in excellent character, the best twelve bunches came from Mr. T. CARR, Tiverton, a little large but very fresh; Messrs. J. CRAY & SON were 2nd.

With twelve bunches of Cactus Dahlias, distinct variety, Messrs. J. CRAY & SON were 1st, having finely developed blooms. The new white variety Winsome, of which they speak in the highest terms, was fine; Mr. G. HUMPHRIES was 2nd.

With twelve Gladioli, Mr. J. MATTOCK came 1st.

FRUIT AND VEGETABLES.

The best collection of ten varieties of fruit came from Mr. H. JONES, Bath, who had Gros Maroc and Muscat of Alexandria Grapes, Sea Eagle Peach, Pineapple Nectarine, Jefferson's Plum, Apricots, Melon, &c.; Col. VIVIAN, Rood Ashton (gr., W. Strugnell), was 2nd.

With six dishes, Mr. W. OLIVER, The Gardens, Littleton Panell, was 1st. He had Muscat of Alexandria and Alicante Grapes, Nectarines, Apples, &c. Mr. STRUGNELL was 2nd.

Grapes were shown well in several classes. Peaches, Apricots, Nectarines, Plums, Cherries, &c., were somewhat sparingly shown, and of generally good character. The best two dishes of culinary Apples were Warner's King and Peasgood's Nonsuch, from Mr. J. F. HALL. The best two dishes of dessert Apples were Beauty of Bath and Worcester Pearmain. Some nice fruit of Lady Sudeley were staged.

Vegetables were good for the season, and a large number of collections was staged. Mr. B. C. WATTS,

Hilpertion Marsh, won the 1st of Messrs. Sutton & Sons prizes for six kinds of vegetables; and Mr. A. S. SOMERVILLE, Wells, was 2nd.

A very fine collection of cut Begonias was staged by Messrs. BLACK & LANGDON, Twerton Hill Nursery, Bath.

ROYAL HORTICULTURAL OF ABERDEEN.

AUGUST 20, 21, and 22.—This Society held its Annual Exhibition on the above dates, in the Duthie Public Park, Aberdeen. The arrangements of the show were much the same as in preceding years, but 'so large were the number of entries—1800, nearly 200 above those of last year—that no little difficulty was experienced in getting the exhibits all properly staged. Mr. J. B. RENNET, Advocate, Aberdeen, the courteous secretary, and the judges were on the ground by 7 A.M.

Considering the unfavourable weather which has been experienced, the display made by the gardeners of the north-east of Scotland was little short of marvellous.

POT PLANTS.

The large marquee devoted to this section was a splendid show. For twenty stove or greenhouse plants in pots, Mr. JOHN PROCTOR, gr. to Sir WILLIAM HENDERSON, Devanha House, Aberdeen, won the 1st prize.

For the best six stove or greenhouse plants, distinct, Mr. PROCTOR again scored a worthy victory. The Society's Silver Medal for the best specimen plant in flower was taken by Mr. William Kilgour, gr. to Mr. Webster, of Edgill; Mr. WILLIAM SCORGIE, Aberdeen, making a good 2nd. For the best specimen foliage plant, open to all, Mr. JOHN SIM, Glenburnie Park, Aberdeen, took the Silver Medal; Mr. PROCTOR being 2nd.

Pelargoniums were a splendid class, Mr. J. M. SIMPSON, Varvil Bank, winning the Medal; and Mr. ALEX. DOUGLAS, Kepplestone, being 2nd. Mr. JOHN SIM, Glenburnie Park, carried off premier honours for plants for dinner-table decoration. The Medal for double Begonias was taken by Mr. KILGOUR, Edgill, and for the single varieties by Mr. H. SKENE, Garthdee House. Mr. WILLIAM WOOD, Priory Hill, Culter, was 1st for Petunias.

In the Carnation class Mr. W. SCORGIE, showed capital, and he was closely followed by Mr. JOHN YULE, Craibstone House, Bucksburn. The other exhibitors worthy of mention, and the sections in which they were supreme, were as follows:—Mr. J. M. SIMPSON, Varvil Bank, Fuchsias; Mr. A. DOUGLAS, Kepplestone, zonal Pelargoniums; Mr. JOHN SIM, Gloxinias; Mr. JOHN BLACK, Aberdeen, early-flowering Chrysanthemums; Mr. JOHN PROCTOR, *Celosia pyramidalis*.

CUT FLOWERS.

The show of cut flowers was far in advance of that of last year. In the Professional class, Mr. GEORGE McLENNAN, Fetteresso Castle, Stonehaven, took premier honours for twenty-four Rose blooms, dissimilar, with a fine entry; Mr. ALEX. DOUGLAS, Kepplestone House gardens, being 2nd. Mr. ALEX. DALGARNO, Woodville, Arbroath, carried off the Silver Medal for twelve Rose blooms, H.P.; Mr. W. COUTTS, Ellon, being 2nd.

For six Teas or Noisettes, Mr. ALEX. BREBNER, Dalhobby, Bieldside, led. Mr. ANDREW GARDNER, Kenmay House gardens, led for twelve double Dahlias. Mr. JAMES JAMIESON, Hawkhill, Milltimber, took the Silver Medal for six varieties of Pompon Dahlias, and Mr. ALEX. GRIGOR, Fairfield, Aberdeen, took similar honours for the best twelve Cactus Dahlias.

Mr. ALEX. DOUGLAS, Kepplestone, took the Silver Medal for twelve bunches of hardy herbaceous flowers; and for a collection of twenty varieties of cut flowers and fine foliage bedding plants, the Medal was taken by Mr. SAMUEL ROBERTSON, gr., Ferryhill House, Aberdeen. For Carnations or Picotees, Mr. M. L. LOW, Elgin, was winner.

FRUIT.

In the Professional class, as is his wont, Mr. ALEXANDER HUTTON, Ucan House, Montrose, carried off the principal prizes, being 1st for a collection of nine dishes, also for four bunches of Grapes, one bunch of Grapes, Melons, Peaches, dessert and cooking Apples, and Tomatoes, a record for which Mr. HUTTON deserves to be heartily congratulated.

Mr. A. GRIGOR, Fairfield, was 1st for two bunches of black Grapes, and Mr. JOHN PETRIE, Crathies Castle, Kincardineshire, 1st for Muscat Grapes.

Mr. G. TAYLOR, Inchgarth House, made splendid exhibits of hardy fruit.

Mr. J. FERGUSON, Linton House, Cluny, forwarded good specimens of Gooseberries, and deservedly scored in these classes.

Strawberries, as can well be understood, owing to the wet season, have been a comparative failure this year; nevertheless, one would not have thought so on seeing the beautiful specimens put forward by Mr. A. PATERSON, Ruthrieston, Aberdeen.

For Raspberries, Mr. A. DOUGLAS, Kepplestone House, took premier place.

VEGETABLES.

For the best collection of vegetables comprising the nine commoner varieties, Mr. ALEXANDER PATERSON, Ruthrieston, was 1st; Mr. JAMES GRANT, Rothienorman, and Mr. FRANK KINNAIRD, Broomhill, Aberdeen, being 2nd and 3rd respectively.

Mr. WILLIAM LEITH, Lomay, won the Society's Silver Medal for the best collection of seven varieties of vegetables; Mr. D. THOM, Woodside, being 2nd.

The other more prominent names in the prize list included Mr. ALEX. GRIGOR, Fairfield, salads; Mr. JAMES SMITH, Kaimhill, Cabbages; Mr. FRANK KINNAIRD, Carrots; Mr. JOHN PATERSON, Denwood, Cauli-flowers; Mr. ALEXANDER BRENNER, Dalhoby, Cucumbers; Mr. A. HUTTON, Usan House, Montrose, Onions and Leeks; and Mr. JOHN KINNAIRD, Peas.

In the Potato classes there was keen competition. The Society's Silver Medal for the best collection comprising four varieties was secured by Mr. T. B. Middleton, gr. to Sir ARTHUR GRANT, Bart., of Monymusk, Aberdeenshire; Mr. JOHN YULE, Craibstone, was 2nd; and Mr. WILLIAM MILNE, Corsindae House, 3rd.

Mr. A. PATERSON, Ruthrieston, was 1st for a collection of four varieties, closely followed by Mr. COUTTS, Ellon.

NURSERYMEN'S EXHIBITS.

The displays made by the nurserymen and florists were good. Messrs. D. & W. CROLL, Dundee, swept the board with their magnificent collections of Roses.

Mr. WILLIAM A. DUSTAN, Holburn Nurseries, Aberdeen, was 1st for Dahlias.

Wreaths were a fine show, Messrs. KNOWLES & SONS, Aberdeen, taking the lead with exquisite specimens composed of Stephanotis, Liliun Harrisii, Lily of the Valley, and Tea Roses.

Mr. ALEX. BURNS, Jun., had the best decorated dinner-table.

Messrs. BEN REID & CO., Aberdeen, had an attractive stand (non-competitive), on which were displayed Liliuns, Codiaums, stove and greenhouse plants, wreaths, bouquets, a broken column of variegated Ivies, and Gladioli.

A large space was occupied by Messrs. COCKER & SONS, Aberdeen (non-competitive), who brought together a superb collection of rare varieties of herbaceous plants, Phloxes, &c.

Messrs. W. SMITH & SONS, Burnside Nurseries, Aberdeen, had also a very fine honorary display, their stand occupying about 80 feet of staging.

The weather was moderately good throughout the three days, and financially the show was much more successful than last year, the sum obtained being £30 above that obtained last year.

DEVON AND EXETER
HORTICULTURAL.

AUGUST 21.—The 197th exhibition of the Society was held at Northernhay, one of the best kept and most beautiful of the pleasure-grounds of the city of Exeter. Taken as a whole, it was one of the most successful shows of recent years, and with the exception of fruit, the exhibits were above the average in merit.

It is to be regretted that some of the best gardens in the neighbourhood are not usually represented at this show, such as Poltimore, Killerton, Bicton, Streatham Hall, Culver, Stover, &c.; the only exhibit from any of these fine gardens being an honorary one from Poltimore.

CUT FLOWERS.

For twenty-four Dahlias, double, show, and fancy, the 1st prize was awarded to Messrs. JARMAN & CO., Chard, amongst whose blooms were Miss Cannell, James Vick, Gloire de Lyon, Julia Wyatt, and Harrison Weir.

For twenty-four Cactus Dahlias, Messrs. W. B. SMALE & SON, Torquay, were 1st with a fine lot, which included Noonday, Lucky Star, Khaki, Ignea, and Beauty of Eynsford, all fresh and well done.

The 1st prize for forty eight spikes of Gladioli went to Mr. S. BIRD, Wellington, for rather a poor lot; and the 1st prize for twelve Tea Roses to Messrs. JARMAN & CO. The competition for the decorated table (fruit and flowers) was keen, and brought out some good work, the 1st prize falling to Mr. GEO. LOCK, Crediton.

PLANTS IN POTS.

For twelve stove and greenhouse plants, Mr. W. BROCK, Exeter (gr., W. Rowland), was 1st, in whose lot were fine specimens of Codiaum Andreanum and Cycas revoluta. Mr. BROCK was 1st also for six specimens (three in flower and three foliage), and for six stove and greenhouse plants, showing Ixora Prince of Orange, Bougainvillea Sanderiana and glabra, Cassia corymbosa, and Clerodendron Balfourii, very well. Mr. BROCK was also 1st for six stove and greenhouse Ferns. For a group of plants, 11 feet by 15 feet, Mr. BROCK was an easy 1st. For the smaller group, 11 feet by 8 feet, Mr. W. F. LORING, Knightleys (gr., W. R. Baker), was 1st with a well-arranged collection of small but effective plants.

Mr. W. B. HEBERDEN, C.B., Elmfield (gr., E. Cole), was 1st in each class for six foliage Begonias, six Dracaenas, and six Caladiums. Among his best Cala-

diums were Mrs. Harry Veitch, Bicolor splendens, Marquis of Camden, and Gaston Chandon. Mr. LORING was 1st for six Cockscombs, better plants than are usually shown at this meeting. Mr. T. KNAPMAN (gr., F. Protheroe) was 1st for six Pelargoniums, showing Snowstorm and Mrs. Ewens in good form.

The 1st prize for six double tuberous-rooted Begonias was awarded to Mr. H. C. WARE, Exeter; the 1st prize for six single Begonias going to Mr. H. TURNER, Exeter, who also secured 1st for six Coleus.

FRUIT.

For a collection of eight dishes of fruit premier honours went to Sir J. SHELLEY, Shobrooke Park (gr., H. Mairs), who included Muscat of Alexandria and Madresfield Court Grapes, Barrington Peaches, Pine-apple Nectarines, Beauty of Bath Apple, Moorpark Apricots, Hero of Lockinge Melon, and Cullen's Golden Gage Plum.

In the five dishes collection, Sir JOHN FERGUSON-DAVIE, Creedy Park (gr., W. Seward), was 1st, showing Black Hamburg Grapes, Sea-Eagle Peaches, Kirke's Lord Nelson Plums, Victoria Nectarines, and Henskirck Apricots, in good form.

Mr. BANNATYNE, Haldon House (gr., J. Ellicott), was 1st for Black Hamburg Grapes; and Rev. HAMILTON GELL, Winslade (gr., G. J. Barnes), for Muscat of Alexandria. For Madresfield Court Grapes, the Rev. H. CLERE, Exmouth, was 1st; and for Buckland Sweet-water, Admiral PARKER. Among the winning kinds of fruit were Barrington Peach, Victoria Nectarine, Lord Suffolk and Irish Peach Apple, Jargonelle Pear, Moorpark Apricot, Brunswick Fig, and Black Alicante Grapes, all, considering the season, being well shown.

VEGETABLES.

This is always the strongest class in the show, and competition keenest. Sir JOHN SHELLEY again took premier honours with a magnificent collection which included Ailsa Craig Onion, Renton's Monarch Leek, Veitch's New Intermediate Carrot, Standard Bearer Celery, Perfection Tomato, Red Garden Globe Turnip, Lord Roberts Cucumber, Duke of Albany Peas, Autumn Giant Cauliflower, Best-of-All Runner Beans, Up-to-Date Potatoes, and Hollow Crown Parsnips—a splendidly-grown and well-shown collection in every respect.

In the smaller collection, Sir DUDLEY KING, Weir House (gr. S. Baker), was 1st with nearly the same varieties. The single dishes, which were hotly contested, were also nearly of the same kinds, excepting Veitch's Scarlet Model Carrot, which is always well shown at Exeter, and Potatoes, which constitute a very strong class at all Devonshire shows.

The 1st prize in the class for Tomatoes was won by Sir DUDLEY KING for a good dish of the variety Cannell's King.

The 1st prize for Shallots was awarded to Mrs. SAVILE, Barley House (gr., J. Rogers), for a dish of bulbs of Veitch's Purple Exhibition of extraordinary size.

TRADE EXHIBITS.

Messrs. ROBT. VEITCH & SON, Exeter, in a large and interesting collection, showed the Golden Beech (Fagus Zlatia), Lonicera Hildebrandti, Tamarix aestivalis, Cocos australis, Beaufortia splendens, Corydalis thalictrifolia, and other novelties (Certificate of Merit).

A Certificate was also awarded to Messrs. W. B. SMALE & SON, Torquay, who showed a large collection of Dahlias; THE DEVON ROSERY CO. (Curtis, Sanford & Co.) had a fine stand of Roses, also a fine collection of Apples from their fruit farm at Cockington; Mr. W. J. GODFREY, Exmouth, had a fine collection of Pelargoniums; Messrs. JARMAN & CO., Chard, and TUPLIN & SONS, Newton Abbot, also showed collections.

ANNUAL EXCURSION OF THE
ENGLISH ARBORICULTURAL.

FOLLOWING close upon the heels of their Scottish confrères, the members of the above Society, as we have already mentioned, held their Twenty-second Annual Meeting at Reading, on August 17, for the purpose of visiting the estates of Highclere, Longleat, and Savernake.

HIGHCLERE.

The first-named of these estates was visited on Tuesday the 18th, and the park and woods were inspected under the guidance of Mr. W. Storie, head forester. The magnificent Cedars of Lebanon near the castle came in for a good deal of attention, the largest girthing nearly 20 feet at 5 feet up, while other trees of interest near the castle were Carya alba 60 feet high and 9 feet in girth, and Abies cephalonica, 80 feet high and 11 feet in girth. The remains of an ancient Yew under the castle walls were said to be 1,050 years of age and had every appearance of being the oldest tree on the estate. After inspecting the stud-farm, the Society was entertained at lunch by Lord Carnarvon, who was represented by his agent, Mr. Rutherford. The saw-mill was then inspected, and the woods round the lake walked through. These woods contain fine specimens of the commoner Conifers, Corsican Pine, Silver Fir, Menzies Spruce, Weymouth Pine, Douglas Fir, &c., being exceptionally fine, a specimen of the last-named being said to rival the famous tree at Dropmore.

LONGLEAT.

On Wednesday the party journeyed by special train to Westbury, whence they drove to Longleat, an account of which had been written for the Society by Mr. A. C. Forbes, from which the following is an extract:—

"This house stands on the site of a small Priory, founded by Sir John Vernon, Lord of Horningsham, in the fifteenth century. This priory was dissolved by Henry VIII., and after passing through various hands, it was purchased by Sir John Thynne about 1540. The present mansion was commenced about 1566, and over £80,000 are said to have been expended on it in labour alone between that date and 1579. The house did not acquire its present form, however, until about 1680. About that period extensive gardens and groves were laid out by London and Wise and two of their colleagues, who took it in turn to superintend the work. Beyond that part of the park known as 'The Grove,' little of these gardens now remain, and the greater part of the site they occupied was thrown into the park by 'Capability' Brown about 1760.

"The greater part of the park (together with the Lower Woods) occupies what was once part of the old Forest of Selwood, in which Alfred is supposed to have collected his followers before attacking the Danes. This forest extended for a considerable distance into Somersetshire, and many parts of the district retain their character to this day. The main avenue leading to Horningsham was probably planted about 1680, and originally consisted of Elms, only a few of which now remain. The gaps have been filled up with various species. The Beech woods and other clumps on Park Hill were planted by Brown about 1760, but except on the north side, his characteristic but formal clumps are not greatly in evidence, and the slopes of the park above the main avenue furnish one of the finest examples of the natural style of landscape gardening in the country. The most noteworthy of the park timber consists of Oaks, Elms, Limes, and Poplars, and those standing in the Grove cannot be excelled in the county of Wilts, taking the quantity of timber and the area on which it stands together.

"The Longleat woods cover an area of nearly 4,000 acres. Of this area about 1,500 acres stand on the Oxford clay, and other clay or loamy soils; about 500 acres are on the chalk, and the remainder are on greensand. On the first-named soils, coppice, with standards, is the prevailing sylvicultural system, and the species met with are Oak, Ash, Hazel, &c. On the chalk mixed plantations of Larch, Corsican and Austrian Pines, Birch, &c., planted for shelter and game, predominate. On the greensand Larch, Scotch Fir, Birch, and Oak constitute three-fourths of the crop, and three-fourths of the entire area are contained in one block of woodland. The species which succeed best and prove most profitable on the greensand are Larch, Douglas Fir, Silver Fir, and Weymouth Pine, and Conifers generally grow rapidly. Beech also does well, but Oak is apt to be shaky, although growing to a fair size. Spanish Chestnut, either in the form of coppice or as a mixture with Larch, does well, and is very profitable if not allowed to stand for long.

METHODS OF WORKING.

In the coppice with standards the woods are divided into areas of convenient size for cutting, and worked on an average rotation for fourteen years. Where Ash, Alder, &c., predominate this rotation is being lengthened by twenty years, in order to produce pit wood. Where the standards are thin and only consist of ripe timber, the ground will either be filled up with Ash and Oak for standards, or planted up as high forest, according to soil and situation.

"In the Coniferous woods clear felling is adopted in mature woods, the area cleared being about 10 acres annually, the greater part of the woods consisting of Scotch Pine, for which there is no outlet except for pit wood. Felling on a large scale is not possible without disorganising the local market for this timber. A considerable extent of over-ripe Scotch Pine is consequently still standing, but as the ground cleared during the last fifty years has been replanted with Larch and other species of a more profitable nature, more extensive clearings will ultimately become practicable.

"The chief market for Coniferous wood is the Radstock coal field, about 15 miles distant, which takes all kinds of rough hard wood timber, Scotch Pine, Larch, &c., at so much per ton. Larch makes about 1s., Scotch Pine 8d., Spruce and Silver Fir 7d., and Oak about 1s. 3d. per foot in the wood when sold for this purpose, and the largest pales in coppice wood are worth about 14s. per ton. Hazel coppice of fourteen years' growth makes from £1 to £1 per acre, while good pole wood of twenty years' growth will make from £8 to £12 per acre. The market prices for Oak, Ash, Birch, &c., are similar to those prevailing in most parts of the South of England.

"The following particulars of a group of Silver Firs growing on about one-third of an acre of ground will illustrate the growth of this tree on the greensand. It is 120 years of age, and the number of trees it contains is twenty-seven. The largest girths at 5 feet up 14 feet 1 inch, and the smallest 6 feet 5 inches. Their height is about 130 feet, and their average cubic contents are 180 feet, or 5,000 feet in all, equal to a stock of 15,000 feet per acre.

"Among other trees in the Longleat Woods may be mentioned:

	Girth at 5 ft.	Height.
	ft. ins.	ft.
Tulip-tree	12 4	100
Sequoia sempervirens	14 1	96
Ginkgo biloba	7 2	70
Sequoia gigantea (Wellingtonia)	12 6	84
Lucombe Oak	11 4	80
Silver Fir	11 10	78
	15 0	130."

After visiting Huren's Gate, from which an extensive view into Somersetshire may be obtained, a visit was made to the grove in which stand the large Oak, and some remarkably fine Limes and Poplars, the former said to be the tallest in England, being 130 feet in height. Unfortunately, time did not permit some of the woods round the house to be seen, and a move had to be made for Showwater for luncheon. The afternoon was spent in walking through the Coniferous woods in this part of the estate, and in inspecting the clearing and replanting which goes on annually in these woods.

SAVERNAKE.

On Thursday a long train journey was again undertaken, in order to visit the ancient forest of Savernake. After walking through some of the woods, containing some very fine Larch-trees, the park was entered by the Cathedral Avenue, consisting, as do all the Savernake avenues, of Beech. These Beech avenues, so far as their length and perfect arching of their canopy are concerned, are probably unique; and a more perfect resemblance to the lofty aisles of a cathedral could scarcely be found.

Tottenham House was visited, and the Marquis of Ailesbury was represented by his daughter, Lady Margaret Bruce, who accompanied the party in their inspection of the pictures and heir-looms of the Bruce family, amongst which are the sword and hunting-horn of Robert Bruce.

Proceeding to the gardens, an object of the greatest interest to foresters in particular and arboriculturists in general was inspected. This was one of the original Larches brought from Tyrol by the Duke of Atholl, about 1740, and presented by him to the then Marquis of Ailesbury. Owing to the distance the Duke had to travel, the Marquis was able to plant his tree at Savernake ten days before the former could reach Dunkeld, and this particular tree is, therefore, one of, if not the earliest planted specimen in the country. It has now a height of 80 feet, and a growth of 12 feet, although its leader is dead.

Before leaving the home farm after lunch, the Marquis of Ailesbury himself joined the party, made an interesting speech on the subject of the avenues, inviting those present to advise him as to the best way of renewing them. The forest was then driven through, and the famous Oaks known as the "Dukes Vaunt," "The Queen," and the "Bradon Oak" were inspected. The two first are gigantic ruins, girdling about 30 feet, but the last-named is a fine healthy specimen of *Q. pedunculata*, with a girth of 19 feet 4 inches at 5 feet. The road to Savernake station followed the main avenue to the Marlborough Lodge, and then through the outskirts of the forest by the high road, bringing to a close a most interesting day.

On Friday the Society visited the seed warehouses and trial grounds of Messrs. Sutton & Sons at Reading, and were entertained by the firm at luncheon.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period August 16 to August 22, 1903. Height above sea-level 24 feet.

1903.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERATURE OF THE SOIL AT 9 A.M.			
		At 9 A.M.				At 1-foot deep.			
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	At 1-foot deep.	At 2-feet deep.	At 3-feet deep.	LOWEST TEMPERATURE ON GRASS.
AUGUST 16 TO AUGUST 22.									
SUN. 16	W.	59.6	52.9	65.7	51.3	0.29	61.6	61.3	59.0
MON. 17	W.S.W.	60.3	57.1	69.9	54.3	0.07	62.2	61.3	59.0
TUES. 18	W.S.W.	60.3	58.3	69.1	55.0	0.06	63.3	61.5	59.0
WED. 19	W.S.W.	57.2	54.0	67.0	53.4	0.03	62.2	61.5	59.0
THU. 20	W.S.W.	58.7	55.0	63.4	52.2	0.22	62.2	61.4	59.0
FRI. 21	S.S.W.	57.8	54.7	67.3	52.5	...	61.8	61.1	59.0
SAT. 22	W.	58.8	54.8	69.2	52.3	...	61.6	61.1	59.0
MEANS	...	59.0	55.3	67.2	53.0	0.07	62.1	61.3	59.0

Remarks.—Strong winds and showery weather have been the prevailing features during the past week.

THE WEATHER IN WEST HERTS.

Cold, Wet, and Gloomy Weather.—The present cold, wet, and gloomy period has now lasted more than six weeks, during which time there have been only three days when the temperature in the thermometer-screen rose above the average for the time of year. During the same period the nights were, on the whole, much less unseasonably cold than the days, but nevertheless on as many as nine of them the thermometer exposed on the surface of the lawn showed readings within 8° of the freezing-point. The coldest of these nights occurred during the past week, when the same thermometer indicated 34°—a very low reading for August. At 2 feet deep the ground is at the present time 1° colder, and at 1 foot deep 3° colder, than is seasonable. Throughout the past six weeks rain has fallen to the aggregate depth of over 4½ inches—equivalent to a watering of as much as 30½ gallons on each square yard of surface in my garden. In the same six weeks nearly 18 gallons of rain-water have come through the bare soil percolation gauge, and 6 gallons through the gauge on which short grass is growing. The sun shone on an average during the week for five hours a day, which is about an hour a day in defect of the mean for August. The winds proved variable, but were as a rule light; while the amount of moisture in the air was again greater than is usual at this season. E. M., Berkhamsted, August 25, 1903.

MARKETS.

COVENT GARDEN, August 27.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Acers, each	2 0	2 6	Ficus elastica, per dozen ...	9 0	24 0
Adiantums, doz. ...	4 0	8 0	Fuchsias, p. doz. ...	3 0	6 0
Aralias, per doz. ...	4 0	8 0	Lilium longiflorum, per dozen ...	6 0	12 0
Arbor Vitæ, per dozen ...	9 0	18 0	— lancifolium, per dozen ...	6 0	12 0
Aspidistras, doz. ...	18 0	36 0	Lycopodiums, p. dozen ...	3 0	4 0
Asters, per doz. ...	3 0	4 0	Marguerites, doz. ...	3 0	12 0
Aucubas, per doz. ...	4 0	8 0	Mignonette, doz. ...	4 0	6 0
Campanulas, doz. ...	4 0	6 0	Palms, var., each	3 0	30 0
Coleuses, per doz. ...	4 0	5 0	Pelargoniums, pink, per doz. ...	4 0	6 0
Coreopsis, dozen ...	2 0	4 0	— scarlet, dozen ...	3 0	6 0
Crotons, per doz. ...	12 0	24 0	Petunias, per doz. ...	3 0	4 0
Dracenas, variety, dozen ...	12 0	48 0	Pteris tremula, dozen ...	4 0	8 0
Eunonymus, var., per dozen ...	4 0	6 0	— Wimssett, doz. ...	4 0	8 0
Ferns in var., per dozen ...	4 0	30 0	Verbenas, dozen ...	4 0	6 0
Ferns, Japanese Balls, each var. ditto, each ...	1 0	0			

CUT FLOWERS, &c.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Alstroemeria, doz. bunches ...	4 0	6 0	Lily of the Valley, p. doz. bunches ...	6 0	12 0
Asters, doz. bun. ...	2 0	4 0	Lupins, doz. bun. ...	3 0	4 0
Azaleas, doz. bun. ...	2 0	4 0	Malva, doz. bun. ...	4 0	6 0
Callas, per dozen ...	2 0	3 0	Marguerites, yellow, doz. bunch. ...	1 0	2 0
Carnations, per doz. bunches ...	2 0	12 0	Mignonette, doz. ...	2 0	3 0
— Malmalsons, doz. ...	6 0	12 0	Montbretias, per dozen bunches ...	4 0	6 0
Coreopsis, dozen bunches ...	1 0	2 0	Orchids: Cattleya, dozen blooms ...	6 0	12 0
Dahlias, per doz. bunches ...	2 0	4 0	Pelargoniums, zonal, d. bun. ...	4 0	6 0
Eucharis, per doz. bunches ...	1 6	2 0	Phlox, per dozen bunches ...	3 0	4 0
Ferns, Asparagus, per bunch ...	1 0	2 6	Poppies, Iceland, p. doz. bunches ...	0 6	1 0
— French, per doz. bunches ...	0 4	0 6	Roses, Mermet, per doz. ...	1 0	2 0
— Maidenhair, doz. bunches ...	4 0	6 0	— various, per bunch ...	0 2	1 6
Gaillardia, per doz. ...	1 0	2 0	— red, 12 bunchs. ...	2 0	6 0
Gardenias, p. box ...	1 6	2 0	— white, bunch ...	0 6	2 0
Gladioli, White, doz. bunches ...	1 0	2 6	— pink, bunch ...	0 4	1 6
— Brengleysensis, per bunch ...	0 4	1 0	Scabiosa caucasica, doz. bunches ...	4 0	6 0
— various, bunch ...	0 4	1 0	Smilax, doz. trails ...	1 6	2 6
Gooseberries, Cape, doz. bunches ...	8 0	9 0	Solidago, d. bnch. ...	3 0	4 0
Gypsophila, bun. ...	0 2	0 4	Stephanotis, per dozen ...	1 0	1 6
Liliums, longiflorum, per bunch ...	1 0	2 0	Stocks, per dozen bunches ...	2 0	4 0
— lancifolium, per bunch ...	1 6	2 0	Sun Flower, doz. bunches ...	1 6	3 0
— rubrum, bnch. ...	1 0	2 0	Sweet Peas, per dozen bunches ...	1 0	3 0
Lilium auratum, per bunch ...	1 0	2 0	Tuberose, strong, per bunch ...	0 9	1 0
			— per dozen ...	0 2	0 3

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, home-grown, cookers, per bushel ...	4 6	7 0	Grapes, Muscats, — A., per lb. ...	2 0	3 0
per half bushel ...	2 6	3 6	— B., per lb. ...	0 8	1 3
— Worcester Pearmain, half bush. ...	5 0	6 0	Lemons, per case ...	14 0	18 0
Bananas, bunch. ...	8 0	14 0	Melons, each ...	0 10	1 6
— loose, dozen ...	1 0	1 6	Nectarines, A., per dozen ...	12 0	18 0
Cobnuts, per lb. ...	0 6	—	— B., per doz. ...	4 0	6 0
Figs, per dozen ...	1 0	2 0	Oranges, per case ...	6 0	14 0
Filberts, per lb. ...	0 4½	9 6	Peaches, A., per dozen ...	7 0	12 0
Grapes, Alicante, per lb. ...	0 8	1 4	— B., per dozen ...	1 6	4 0
— Gros Maroc, lb. ...	1 0	1 6	Pears, per half bushel ...	3 0	6 0
— Hamburg, A., per lb. ...	1 0	1 6	— Crate, 24 ...	6 0	7 0
— B., per lb. ...	0 6	0 9	Pines, each ...	2 6	4 6
			Plums, per sieve ...	3 0	10 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per dozen ...	1 6	—	Mint, per dozen bunches ...	1 0	1 6
Beans, dwarf, per sieve ...	2 0	2 6	Mushrooms, house, per lb. ...	0 10	1 0
— broad, bush. ...	0 9	1 0	Onions, per case ...	4 0	5 0
— Scarlet Runner, p. bushel ...	4 0	5 0	— per bag ...	3 0	3 6
Beetroots, per bushel ...	2 0	2 6	— green, per dozen ...	1 6	2 0
Cabbages, tatty ...	3 0	5 0	Parsley, per doz. bunches ...	1 0	1 6
Carrots, new, per dozen ...	0 9	1 3	— sieve ...	0 9	1 0
— per bag ...	3 0	4 0	Peas, per bag ...	4 0	6 0
Cauliflowers, per dozen ...	2 0	2 6	— per bushel ...	3 0	4 0
Celery, per dozen bundles ...	10 0	15 0	Potatoes, per ton ...	60 0	100 0
Cress, per dozen punnets ...	1 3	—	Radishes, per dozen bunches ...	0 6	0 9
Cucumbers, doz. ...	1 0	2 0	Salad, small, punnets, per doz. ...	1 3	—
Endive, per doz. ...	1 6	—	Spinach, pr. sieve ...	1 0	1 3
Garlic, per lb. ...	0 3	—	Tomatoes, Channel Islands, per lb. ...	0 3½	0 4
Horseradish, foreign, p. bunch ...	1 6	2 0	— English, per 12 lb. ...	3 6	4 6
Leeks, per dozen bunches ...	1 0	1 6	Turnips, per doz. bunches ...	2 0	3 0
Lettuces, Cabbage, per dozen ...	0 6	0 9	— per bag ...	3 0	—
Lettuce, Cos, per score ...	1 0	—	Vegetable - Marrows, per tally ...	2 6	4 0
			Watercress, per dozen bunches ...	0 4	0 6

REMARKS.—Plums are easier in price. There is a good supply of foreign Swizens at 3s. to 4s. the half-bushel; Gisbourns, 5s.; Victorias, 8s. to 9s.; Diamonds, 7s. 6d.; Australian Oranges, in cases of 120 to 140, are 6s. to 8s., quality poor; Californian New Town Apples, in case, 8s.; French Tomatoes, in boxes, 2s. to 2s. 6d.; in crates, 4s. Corn Cobs, per dozen, 2s.; Mangos, per dozen, 6s.; Aubergines, per dozen, 2s.; Salsafy, per dozen, 4s.; home-grown Endive, per score, 9d. to 1s.

POTATOS.

Home-grown, 70s. to 100s. per ton. John Bath, 32 & 34, Wellington Street, Covent Garden.

ANSWERS TO CORRESPONDENTS.

ADDRESS WANTED: *Hortus*. We have no means of knowing.

ASIA MINOR: *F. & Co.* We can only answer your question in general terms. The climate is hot and dry in summer, bitterly cold in winter. On the lower slopes of the mountains a more temperate climate is experienced. Speaking generally, any vegetables that will do along the Mediterranean will thrive in Asia Minor, especially if irrigation can be practised. Wood-ashes, leaf-mould, and a proportion of sand might be added to the soil.

BEGONIA GLOIRE DE LORRAINE: *Greenlands*. The plant seems to have been growing very rapidly, and then during that time has received a check at the root. The failure is due to injury to the roots or the collar of the plant. Soot-water, unless applied very carefully, may be a cause of injury. Even when the liquid is not strong enough to cause damage if given occasionally, it might do so if the plants are afforded it too frequently.

BEGONIAS: *F. E. G.* The leaves have been injured by mites, a species of *Tarsonymus*, invisible to the naked eye. Tobacco-water is one of the best remedies, either as a spray or in a large vessel in which the plants may be dipped.

BRASSICA STEMS BORED BY INSECTS: *H. T. W.* Probably the work of a species of two-winged fly belonging to the genus *Anthomyia*, and allied to the Cabbage-fly, *A. brassicae*. But in the absence of the insect it is impossible to definitely fix the species, and all the more so seeing that the nature of the injury is of an unusual character. As a means of prevention,

make your seed-beds on entirely fresh ground, and see that the plants do not become overcrowded. Transplant also to fresh ground or where a good succession of crops has been grown; and after planting out sprinkle a band, about 6 inches wide, of fresh gas-lime between the rows. It is most important that all infected plants should be removed and burnt.

CARNATIONS: *R. C. B.* All good border varieties. Of the three we prefer the yellow-striped variety. The red one is useful as coming later. The white is not pure enough and seems liable to burst its calyx. Considering the season, they are all good flowers.

CUCUMBER LEAF-SPOT: *Telegraph.* We will answer your questions in our next issue.

GRAPES FAILING TO COLOUR: *G. H.* If the Grapes colour very irregularly, it is due to some detail in the cultural conditions being more or less unsuitable. It occasionally happens, however, that in bunches otherwise well developed and perfectly coloured, there is one or more berries that remain perfectly green. Unless this be due to imperfect fertilization, it is difficult to arrive definitely at the true cause.

GRAPE ROT (GLEOSPORIUM AMPELOPHAGUM): *Bewildered.* The bunch of Grapes sent for examination appears to be undoubtedly infested with Grape-rot, or anthracnose of the Vine, of which we must refer to a long account in the *Gard. Chron.*, July 8, 1893, p. 93, since which time it has very frequently occurred in this country. Unfortunately we have failed to find conidia in the present case, as the pustules appear to be immature, but the external appearance and incipient pustules seem to indicate the species we have named. It is unnecessary to urge again that all the species of this genus of fungi are dreadful pests, and every trace should be destroyed as soon as it appears, whether on the fruit, leaves, or twigs, for it affects them all. We find on some of the Grapes that *Penicillium glaucum*, the common blue mould, has developed. This is not strange, for it will attack anything vegetable; but Sorokin has figured it, in a Russian work, as a parasite of Grapes. *M. C. C.*

GRAPES: *Query.* We are not prepared to express an opinion unless we see specimens.—*Perplexed One.* There is no injurious fungus on the berries received, but only a mould which has grown after the berries have cracked. The cracking is most likely due to injudicious watering, and it is frequently the result of flooding a border with water after it has been allowed to become drier than it should be.

HOLLYHOCK: *W. F.* The Hollyhock - fungus. Burn the shoots at once. Spray the young plants next season with liver-of-sulphur, $\frac{1}{2}$ oz. to a gallon of water.

MEALY BUG ON VINES: *J. E.* Kerosene emulsion is an excellent winter dressing for Vines, but before applying this it is necessary to look carefully over the rods when the pruning has been done, and remove every vestige of loose bark, which affords the pest hiding places. The rods should also be treated with a solution of 3 oz. of caustic soda and 3 oz. of commercial potash, dissolved in 2 gallons of boiling water. The fumigation with sulphur will not hurt the Vines if applied when they are dormant, unless it be done excessively. The XL-All Vaporising Insecticide might be used with advantage.

NAME OF SCALE INSECT: *Pinus.* *Orthesia insignis*, of Douglas. It belongs to the family Coccidæ, and is generally a very destructive species. Mr. E. E. Green, in the *Circular of the Royal Gardens, Ceylon*, s. 1, No. 10, pp. 83-94 (1899), has given a full and interesting account of this insect. You will also find a reference to the insect in *Bull. Roy. Gardens, Kew*, Nos. 102, 103, p. 163 (1895).

NAMES OF FRUIT: *B. G. S.* Summer Strawberry.—*Waterford.* 1, Lady Sudeley; 2, Stirling Castle; 3, Waltham Abbey; 4, Cellini Pippin; 5, Peasgood's Nonsuch.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so*

good as to consult the following number.—*D. B.* 1, *Silene gallica*; 2, *S. gallica* var. *quinquevulnera* (= *S. quinquevulnera*); 3, *Agrostis alba*.—*Learner.* 1, *Triticum repens*; 2, *Festuca sciuroides*; 3, *Agrostis vulgaris* var. *pumila*. *C. B.* 1, *Juniperus virginiana*; 2, *Cryptomeria japonica*; 3, *Cryptomeria japonica* var. *excelsa*; 4, *Juniperus*; 5, *Fraxinus*, Ash; 6, *Ulmus montana*.—*G. T.* 1, *Polygonum cuspidatum*; 2, *Polemonium coeruleum*; 3, *Galega officinalis alba*.—*E. B.* 1, *Asplenium Ruta muraria*; 2, *Asplenium trichomanes*.—*S. B.* 1, *Euonymus latifolius*; 2, *Salvia Horminum*.—*J. E.* *Bignonia radicans*.—*Mac.* *Asclepias curassavica*.—*D. Wallington.* We do not undertake to name varieties of Zonal Pelargoniums or other florists' flowers.—*No Name.* Address, St. Nicholas Men's Club. Another time please send better specimens, not more than six, carefully packed, and with the labels more easily detached. Our time is precious. 1, *Potentilla Tormentilla*; 2, 3 and 11 not found; 4, *Solanum*

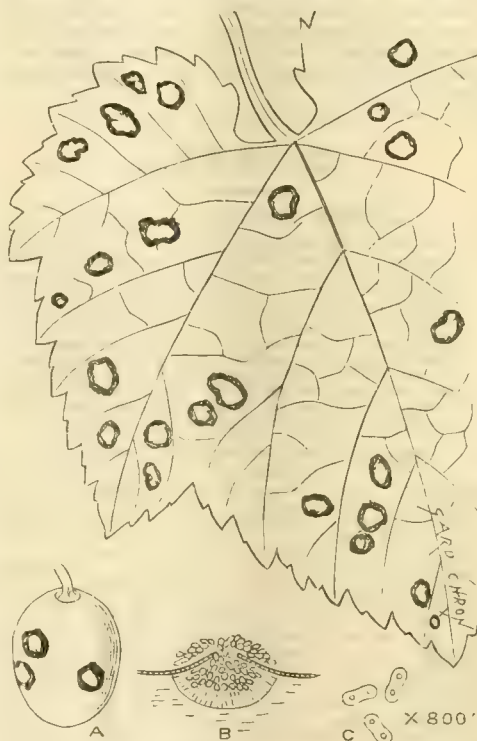


FIG. 61.—ANTHRACNOSE (BLACK ROT) OF THE VINE.

Dulcamara; 5, *Achillea Millefolium*; 6, *Campanula rotundifolia*; 7, *Hypochaeris radicata*; 8, *Sagina procumbens*; 9, *Teucrium scorodonia*; 10, *Achillea Millefolium*; 12, *Calluna vulgaris*; 13, *Stachys Betonica*; 14, *Achillea Ptarmica*.—*A. G. C.* 1, *Spiraea arifolia*; 2, *Polygonum cuspidatum*; 3, *Rhus typhina*.—*Phyto.* 1, *Ulmus campestris* variety; 2, *Alnus glutinosa*.—*J. G. W.* Your specimens represent two of the very early raised kinds. 1 is near, if not actually *Venus de Medicis*; 2 is close to *Bank's Glory*; 3, a tuberous *Begonia*, which we cannot name.—*H. W. J.* 1, *Hedychium coronarium*; 2, *Tydea speciosa*; 3, *Cypripedium Sedeni*; 4, *Pteris cretica albo-lineata*; 5, *Pteris argyrea*; 6, *Adiantum decorum*; 7, *Asplenium bulbiferum*; 8, *Polypodium nigrescens*; 9, *Cyrtomium falcatum*; 10, *Cyrtomium falcatum*.—*H. W. J. and G. H. B.* It seems from internal evidence as if these ostensibly different persons were one and the same. If so, a shabby trick has been played upon us, the penalty for which is to send us forthwith a donation for the Gardeners' Orphan Fund. In one case ten specimens, in the other nine, instead of the regulation six. If we are mistaken we apologise.—*G. H. B.* 1, *Polypodium plumosum*; 2, *Gymnogramma ochracea*; 3, *Adiantum formosum*; 4, *Pteris serrulata polydactylon*; 5, *Adiantum capillus Veneris*; 6, *Pteris serrulata cristata*; 7, *Adiantum cardiophyllum*; 8, *Gymnogramma tartarea*; 9, *Pteris longifolia*.

You have sent more than six.—*M. R. M.* *Cypripedium* × *Sedeni*, of gardens; more correctly *Selenipedium* × *Sedeni*.—*Greenlands.* 1, *Panax* or *Aralia*; 2, *Paullinia thalictrifolia*; 4, *Eleagnus pungens variegata*; 5, *Cornus mas* var. *tricolor*; 6, *Cassinia fulvida*.—*J. M.* 1, *Lycium sinense*; 2, *Sidalcea candida*; 3, *Pteris tremula*; 4, *Cystopteris fragilis*; 5, *Galega officinalis alba*; 6, *Robinia pseudo-acacia*.—*G. M.* *Equisetum arvense*. If weed-killer of eight times the usual strength will not kill it, we do not know what will! Try sprinkling it with petroleum and set it on fire, and dig up the roots.—*A. P. C.* Do not send more than six. *Veronicas* next week. 6, *Genista tinctoria*; 7, *Sedum spurium*; 8, *Genista sagittalis*; 9, *Sedum spurium album*; 10, *S. populifolium*; 11, *Olearia Haastii*; 12, *Potentilla fruticosa*; 13, *Colletia cruciata*.—*W. & S.* All varieties of *Statice sinuata*. *S. sinuata* was figured in *Botanical Magazine*, t. 71, and even at that early date it was a well-known plant. It is stated to be a native of Sicily, Palestine, and Africa.

NICOTIANA COLOSSEA: *M. B.* This is a species. We will endeavour to give you the information you require when less pressed.

ROOTS: *F. L.* We have not examined the root-cells in the cases you mention, but we expect they will turn out to be identical.

SCARLET RUNNERS: *M. Bros.* Due to the season. There is no fungus; the pods are perfectly healthy.

SITUATION IN JARDIN DES PLANTES, PARIS: *J. T. W.* Write to M. Gerome, the Curator. It is quite possible he may take you if your qualifications will satisfy him. As an alternative you may write to Mr. Geo. Schneider, who as President of the Société Française d'Horticulture de Londres, may be able to help you to get a situation in a French garden.

STRAWBERRY LEAF: *W. D.* The leaf is affected with the Strawberry fungus (*Sphaeria Fragariae*), figured in the *Gardeners' Chronicle* for July 8, 1891, p. 53. Spray the plants at once with a solution of copper, prepared by dissolving 3 oz. of carbonate of copper in one quart of water, and then diluting it to 20 gallons. If the pest is very bad, it will be well to remove all the old leaves early next spring and burn them.

THREE PEACHES: *F. H. B. & W. D.* The naming of Peaches is not possible, at least with certainty, and we would advise you to take them to some nurseryman who cultivates and fruits Peaches.

TOMATOS: *Padiham.* There is no fungus disease present in the specimens sent us. The failure of the plants is probably due to some cultural defect, such as unsuitable loam, &c. If you will send portions of the roots we will examine them for signs of eelworm and wireworm.

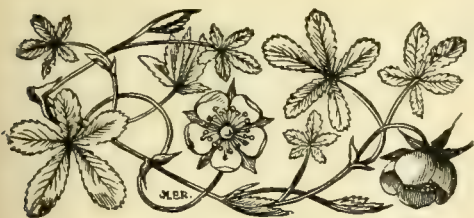
TROPEOLUM SPECIOSUM: *F. E. G.* If you move the plant it will be best to do so in March, before growth commences; but there is risk in disturbing this species. You might take some of the growths from the underground rhizomes that are just appearing above the soil, and pot them up now. Be careful in severing them from the parent plant to save what roots there may be on the lesser rhizome, and place the pots in an unheated house or frame, where the plants may be shaded and kept moist until established. They should be planted-out next season when fully established.

COMMUNICATIONS RECEIVED.—*W. E. G.*—*A. H.*—*F. W. B.*—*S. W. R.*, Queensland—*Dr. Cogniaux*—*W. G. S.*—*R. L. C.*—*S. F. & Co.*—*W. C.*—*J. T. H.*—*M. C. C.*—*W. A. C.*, photographs—*R. L. C.*—*B.*, many thanks, but you were anticipated—*W. H. B.*—*W. A. L.*—*A. F. W.*, the insertion of your initials under this head is to be understood merely as an acknowledgment of the receipt of your communication, which will be considered in due course.—*S. C.*—*R. W. F.*—*F. M. Good.*—*A. C. F.*—*R. J. L.*—*Messrs. Sutton*—*Prof. Hansen, Copenhagen*—*Dr. Henry*—*W. J. B.*—*J. C.*—*J. U.*, photos under consideration, meanwhile accept our thanks.—*F. L.*—*J. Snell*—*W. T. G.*—*J. Maers*—*E. W.*—*A. T. C.*—*S. H.*—*S. L. Cocks*—*Rockist*—*Storrie & Storrie*—*S. A.*—*W. R.*—*J. O'B.*—*Dicksons, Ltd.*—*F. M.*—*H. R.*—*N. F. B.*

PHOTOGRAPHS RECEIVED WITH THANKS.—*W. C. & Son*—*A. F. D.*—*J. U.*



ROCK GARDEN IN THE MELBOURNE BOTANIC GARDEN: PHOTO. BY N. J. CAIRE.



THE

Gardeners' Chronicle

No. 871.—SATURDAY, SEPT. 5, 1903.

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THE FLOWERING OF BAMBOOS.

SOME doubt has been expressed in recent issues from the Gardening press as to whether any Bamboos really die after flowering. The experience of the last few years in our own gardens has shown how unfounded was the belief at one time entertained that all Bamboos died after flowering. But it seems to be getting as far away from the facts of the case in the other direction to say that none do so. There appear to be three groups into which Bamboos may be divided, according to the way they behave after flowering:—1st, There are those which there appears to be no reasonable doubt die entirely; 2nd, Those that flower and bring themselves to a miserably crippled state by so doing, yet do not die; 3rd, Those that flower frequently but partially (that is on a certain proportion of culms only), and which do not appear to suffer at all. The following notes refer to species, both tender and hardy, that have flowered in these islands. In view of the points in dispute, it may be worth while to put on record their behaviour after doing so. The first two cases seem to me to prove that some Bamboos do not survive their flowering.

1. *ARUNDINARIA FALCONERI*.—I wrote to Mr. W. Osborne, late gardener to Lord Barrymore, Fota Island, respecting this Bamboo. It flowered there in 1876, and he says,—"All the *Arundinaria* (or *Thamnocalamus*) *Falconeri* at Fota Island, and all that I knew for miles round, bore seed and died at the same time. . . . We left the roots in the ground for a year or two, and then dug them up. There was not a particle of life in the roots."

2. *CHUSQUEA ABIETIFOLIA*.—In the years 1884-1885, this climbing Bamboo flowered in the West Indies, and a plant sent to Kew from Jamaica flowered at the same time. According to Sir Daniel (then Mr.) Morris, "when the seed was set, the stem began to die down, and apparently every plant in the island [Jamaica] died, root and all." (See *Gardeners' Chronicle*, Oct. 23, 1886, p. 524.) The Kew plant died also.

3. *ARUNDINARIA HOOKERIANA*.—This species flowered in the Temperate-house at Kew in 1899, and bore seed (from which the plants now in the house were raised). Every plant died; and Mr. Dallimore, at that time foreman of the house, informs me there was no sign of life in the roots when he dug them up. I learn, however, that at Glasnevin, where it flowered at the same time, some died whilst others have recovered.

4. *ARUNDINARIA LAYDEKERI*.—In 1896 this Bamboo flowered at Kew and in other establishments. As we had only one plant, I was anxious to keep it, and as it gave no sign of growth after flowering I had it taken up and placed in mild bottom-heat to stimulate it into activity again. It continued to send up new growths for more than a year, but after becoming a few inches high they invariably flowered, and the plant gradually dwindled away and died. Young plants were raised from seed at Batsford, but I do not know what happened to the original plant.

5. *ARUNDINARIA SIMONI*.—At intervals during the past twelve years this plant has blossomed at Kew. Never more than a few culms, however, have flowered at one time, and the plants have never suffered at all. From several quarters, however (Wales, Cornwall, and Surrey), I hear that it is flowering over every part of the plant this year, and in these instances it will be interesting to see what happens.

6. *ARUNDINARIA AURICOMA* flowers every year on a certain proportion of culms, but the plants remain as vigorous and healthy as ever.

7. *ARUNDINARIA FALCATA* VAR. *GLOMERATA*, growing in the Temperate-house at Kew, behaves like the preceding species.

8. *PHYLLOSTACHYS HENONIS*.—This Bamboo has flowered in many places throughout the country in recent years. So far as I know, none of the plants have died outright. Those that I have seen get into a very crippled, sickly state, but keep on sending out a few leafy shoots. They may ultimately recover.

9. *PHYLLOSTACHYS NIGRA* AND THE VARIETY *PUNCTATA*.—These, although distinct enough for horticultural purposes from *P. Henonis*, are really forms of the same species. Their behaviour after flowering is the same. *W. J. Bean, Kew.*

RAROTONGA.*

ONE by one the remote islands of the Pacific Ocean are becoming better known, and soon there will not be one unexplored on which there is endemic vegetation. But it is a singular fact in the history of these islands that some of those

of which the names are most familiar are or, until quite recently, were botanically unknown. Pitcairn Island, the refuge and home of the mutineers of the *Bounty* and their descendants, has still to be botanised in its least accessible parts, where endemic plants are likely to exist. It was the same with the Cook or Hervey Islands, the scene of the missionary Williams's remarkably successful labours early in the last century. This group has been a British Protectorate since 1888, and in 1900 it was fully incorporated in the British Empire. The following year Mr. Cheeseman spent the months of May, June, and July, botanising the island of Rarotonga, and although he does not claim to have exhaustively botanised it, there are probably few novelties left for future explorers. He presented a set of his dried plants to Kew, partly in order to have certain desirable comparisons made with specimens there; and he has now published the results of his investigations in the place cited below.

The island of Rarotonga is in about 160° W. long, within the tropics, and about six or seven hundred miles south-west of Tahiti. It is oblong in shape, and about eight miles long by six in width. The surface is very diversified and picturesque, with mountain ridges radiating from the centre, and a number of peaks from 1,500 to 2,250 feet high. The ridges are remarkably narrow and sharp, in places not more than a foot in width, with precipitous slopes into ravines hundreds of feet deep, and corresponding rivulets. The whole island is now practically covered with forest, though formerly nearly all practicable parts were cultivated. The climate is fairly equable, the temperature rarely rising above 90° Fahr., or falling below 60°; and the annual rainfall is about ninety inches. Thunderstorms, with a rainfall of two or three inches in a few hours, are not uncommon, but hurricanes are rare.

Mr. Williams estimated the population at 30,000 in 1823, or nearly ten times the present number.

Previous to Mr. Cheeseman's visit Kew possessed specimens of fewer than a dozen flowering plants from Rarotonga, and about as many Ferns. Now he enumerates 334 species of the two divisions, of which sixty-seven are Ferns. As might be expected, a large proportion of the species are generally dispersed in Polynesia, and many of them are of much wider distribution. Mr. Cheeseman eliminates ninety-nine as probably or certainly introduced, leaving an indigenous flora represented by 235 species.

The natural orders of the greatest number of species are: Gramineæ, 25; Leguminosæ, 23; Euphorbiaceæ, 16; Solanaceæ, 11; Compositæ, Rubiaceæ, and Malvaceæ, 10 each; Urticaceæ, Cyperaceæ, and Orchidaceæ, 9 each. Eighteen species, including one Fern, are apparently confined to the island. Prominent among these is *Fitchia speciosa*, an arborescent Composite, one of the commonest small trees in the island, forming the greater part of the forest in many places at elevations above 500 feet, and ascending to the tops of the highest peaks. It has glossy foliage, like a Laurel, and orange-red flower-heads 3 to 4 inches in diameter, and it is the most ornamental feature in the landscape. In the flowering season the natives make numerous excursions to the hills in order

* *The Flora of Rarotonga, the Chief Island of the Cook Group.* By Thomas F. Cheeseman, F.L.S., Curator of the Auckland Museum, New Zealand. *Transactions of the Linnean Society, Second Series (Botany)*, vi., pp. 261-313, plates 31-35.

to collect the honey which the flowers secrete in abundance. The genus *Fitchia* was previously only known from the Society Islands.

Sclerotheca viridiflora, a shrubby member of the Lobeliaceæ, is also interesting on account of the distribution of the genus being the same as that of *Fitchia*. All the Orchids found in the island are terrestrial, and belong to widely spread genera. The Coconut is the only Palm, and of this the natives distinguish five varieties, chiefly by the size and colour of the fruit. Bananas are still the staple article of food, and Mr. Cheeseman names fifteen varieties. Yams in variety, Taro (*Colocasia antiquorum*), Kape (*Alocasia macrorrhiza*), and Breadfruit are all extensively cultivated. There is a wild Banana (*Musa Fehi*) which bears an edible fruit, and often forms groves several acres in extent. The Pineapple is also largely cultivated, and the fruit exported to New Zealand. The five plates, by Miss M. Smith, illustrating this interesting addition to the literature of insular Floras, represent *Elæocarpus rarotongensis*, *Fitchia speciosa*, *Sclerotheca viridiflora*, *Myrsine Cheesemani*, and *Cyrtandra rarotongensis*. *W. Botting Hemsley*.

CUCUMBER MONSTROSITIES.

THE reputedly cool Cucumber has lately shown signs of great excitement. Last year we published some extraordinary cases of proliferation in a variety of Telegraph, and we now supply a figure of some Cucumbers in the fruiting stage. It will be seen from the drawing (fig. 62) that at the base of the older and thicker of the two fruits leaves are proceeding, and not only leaves but a second Cucumber on a short stalk, and, like the parent Cucumber, provided with leaves where ordinarily there are none. As the true fruit is embedded in a branch which forms the outer portion or rind of the Cucumber, it is not wonderful that such an axis should produce other branches. It is what a branch might be expected to do, but why it has done so in this case is a problem we cannot solve.

NEW OR NOTEWORTHY PLANTS.

RUBUS LASIOSTYLUS, FOCKE.*

To Messrs. James Veitch & Sons, of Chelsea, we are indebted for a specimen of this handsome Chinese Bramble, remarkable for its glaucous stem, leaves covered with white down on the lower surface, purple flowers, and rose-pink "berries," resembling those of a Raspberry, but sub-globose. It was introduced from China by Dr. Henry, and is noteworthy for its glaucous cylindrical branches, provided with rather numerous slender straight or slightly-curved prickles. The leaves are trifoliate on long prickly petioles; stipules large, leafy, obliquely oblong, abruptly acuminate. The terminal leaflet in the specimen examined was about 4 inches long, rather less in extreme breadth, thin in texture, light green and hairy above, downy and milk-white beneath, ordate suborbicular acuminate bidentate, nerves pinnate approximate, with transverse inosculating nervules; the lateral leaflets are similar but much smaller. The flowers are numerous, in much-branched panicles, provided with large leafy stipule-like bracts and remote prickles. Flowers nearly 1 inch across, with broadly lanceolate acuminate purplish sepals, hairy on the inner surface; petals rosy-purple, oblong, shortly stalked, shorter than the sepals; filaments glabrous. Fruit sub-globose, pointed; ovaries or

drupels rose-pink, covered with hairs and terminating in long styles. Flesh yellow; flavour peculiar, not unpleasant, subacid, reminding one of the taste of the berries of the Hawthorn, or, as a friend states, something between a Raspberry and a Blackberry.

The species is well worth growing by the plant-lover, and affords a promising subject for the cross-breeder. *M. T. M.*

ORCHID NOTES AND GLEANINGS.

DISA GRANDIFLORA.

SOUTH African terrestrial Orchids, even in our best collections, often refuse to respond to the care bestowed on them in a satisfactory manner; on the other hand, in some gardens, most of them

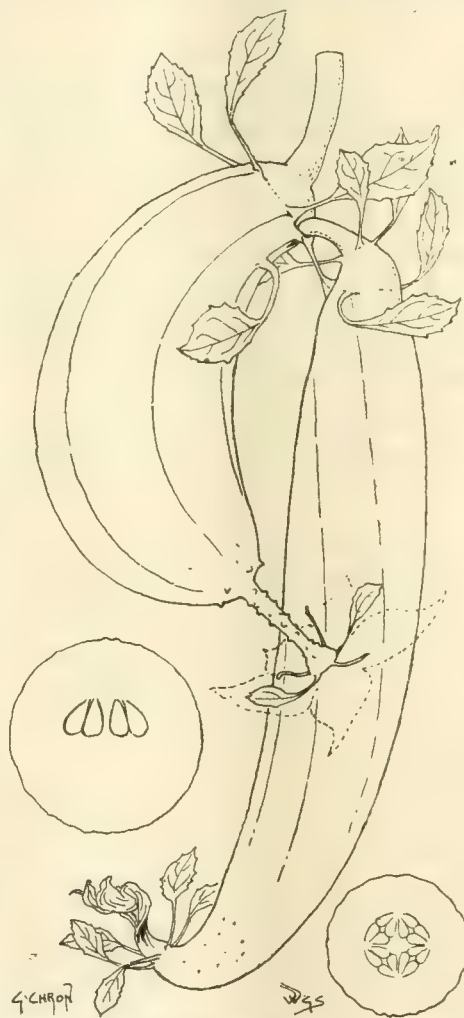


FIG. 62.—LATERAL PROLIFERATION IN A CUCUMBER.

thrive admirably, and especially that showiest of all—*Disa grandiflora*. In Mrs. Brightwen's pretty gardens at The Grove, Stanmore, Mr. J. W. Odell has seemingly without effort cultivated every species of Cape terrestrial Orchid which has come into his hands. Among them are several species of *Satyrium*, which have flowered regularly for years; the frail and pretty *Disa sagittalis*, which also flowers regularly; *D. tripetaloides*, with several elegant spikes of white rose-spotted flowers to each plant; *D. racemosa*, and some of the hybrid *Disas*, and, best of all, a number of *D. grandiflora*, with stout spikes of large bright scarlet flowers. Mr. Odell winters them on a shelf near the glass in a cool greenhouse, where they remain until the flowering season is over, when they are placed in a cold frame situated in a shady place, the glass-lights of which are off for the greater part of the time. Here they remain until winter sets in. *Disas* like a free

supply of rain-water and a pure and rather dry air around them, hence they seldom thrive in an Orchid-house.

ANGULOA UNIFLORA VAR. EBURNEA.

Anguloa uniflora, upon which the genus was founded by the Spanish botanists Ruiz and Pavon, is the most widely distributed member of the genus, having been found in extreme localities in Peru, New Granada, and other parts of South America, and is, perhaps, consequently the most varied in form and even in the colouring of its flowers. The bulk of the species, however, from all localities have, compared with the showier members of the genus, rather narrow, laterally compressed flowers with acute sepals, sometimes bluish white or pale pink, and often spotted with rose. Occasionally, however, there appears a large pure white form with almost globular flowers so much resembling those of the largest *Anguloa*, the yellow *A. Clowesii*, as to have acquired for it the erroneous name of *Anguloa Clowesii* var. *eburnea*. The form of the column and of the labellum of this large white variety is very different from those of *A. Clowesii*, and the plant, which has also been called *A. eburnea*, was correctly figured from a specimen which flowered with Sir Trevor Lawrence, Bart., in *Lindenia*, viii., p. 27, as *A. uniflora* var. *eburnea*. A similar large, pure white, wax-like variety, with a rose-coloured freckling inside the labellum, is kindly sent by H. Rider Haggard, Esq., Ditchingham House, Norfolk, who makes his garden his chief pastime when not engaged on the literary work which has brought him so much fame. Mr. Rider Haggard states that he received the plant as "a new species from the Philippines," but there must have been an error in the record, for the plant could scarcely be indigenous in that region.

GOMEZA PLANIFOLIA.

A raceme of twenty-five flowers of this pretty and delightfully fragrant species is sent by Francis H. Moore, Esq., the Royal Infirmary, Liverpool, who states that it came from Brazil with *Oncidium concolor*. It was introduced by Messrs. Loddiges about the year 1822, and has frequently appeared since. It is a compact-growing plant of the light green tint seen in *Miltonias*, with which it thrives well. Its floral racemes are freely produced, the flowers being greenish-yellow, the lip light yellow, the column white with a reddish line round the stigmatic surface. A singular feature is given by the broadly-oblong lip of the mature flower resting closely on the longer lateral sepals, which are united for two-thirds of their length. *J. O'B.*

MARKET NOTES.

LATE PEACHES.

A VISIT to Mr. J. Walker's market garden at Ham Common, Kingston, interests me at any time, and more especially at this season, when the Peach crop is a small one. The fruits observed were large and of high colour, and even the fruits of Princess of Wales Peach were very highly coloured. The Peach-houses are now without artificial heat, so as not to hasten the ripening of the fruits.

I have put a double asterisk in my note-book against Sea Eagle, for never have I observed this variety of so large a size or with such fine colour. I had this variety under my charge at Worthing, some thirty years ago, growing it in pots and in the border. I well know its value. Nectarine Peach was of full size and good in other respects, and the trees cropped very regularly. Princess of Wales is always a good-sized fruit, but it is generally of a pale tint; here, on the contrary, the tint is very beautiful.

Gladstone, an extraordinary fruit in all respects, was excellent. There were five trees in one house

* *Rubus lasiostylus*, Focke, ex *Botanical Magazine*, t. 7426 (1894).

alone. This variety, Mr. Walker told me, is always better if the ripening is aided by fire-heat. Crimson fruits of Galande from some of the trees have been gathered, and there were later fruits to follow. Trees of the new Peach Thomas Rivers, a very strong grower, were fruiting abundantly—a late and very promising variety.

The Barrington Peach is one of the choicest and richest in colour, and large of size, cropping well. Humboldt Nectarine is a very large fruit of the Pine-apple breed and a good variety for market. The methods of packing fruit for the

The second flower is named Lady Muriel Digby, and is of great size. The general colour is primrose, with a yellow stain and markings of crimson. It was shown by Messrs. Kelway & Son, the celebrated cultivators in Somersetshire, from whom we received only a day or two ago specimens of several other remarkable novelties, as follows:—Admiral Markham, red flaked with deeper colour, and marked with purple on the lower segment and throat; Duke of Norfolk, $5\frac{1}{2}$ inches across, colour salmon-red, with a white band through each segment and a

NOTICES OF BOOKS.

THE TREE BOOK. By Mary Rowles Jarvis. (John Lane).

THIS is a dainty little book, consisting apparently of reprints of magazine articles. In any case, it is pleasantly if not authoritatively written. The author's statements indeed require to be received with caution. It is very doubtful whether the Elm is a true native of this country, a doubt recognised by the author, though on the same



FIG. 63.—TWO NOVELTIES IN GLADIOLI THAT RECEIVED AWARDS OF MERIT AT A MEETING OF THE ROYAL HORTICULTURAL SOCIETY ON AUGUST 18.

market afforded a useful lesson, everything being graded as packed, and needless to say the best prices are obtained. *Stephen Castle.*

GLADIOLUS.

At the present time, when every garden is, or should be, gay with Gladiolus in bloom, the accompanying illustration (fig. 63) of two bold and beautiful varieties exhibited at the Drill Hall meeting on August 18 last will have especial interest. The first one, Nymph, is pure white, except for a stain of yellow on the lower segment, and a disc of dark colour at the base of the open throat. It will be seen that the flower is of large size, composed of rounded segments. This variety was shown by Mr. W. C. Bull, Rathlin, Ramsgate.

white mark on the lower one; Snowdrift, white with stain of pale buff colour on the two lower segments and a purple blotch in centre, conspicuous violet-coloured anthers; Countess Amy, purple with white band in centre of each segment; Moyana, cream-coloured with markings of rose in centre, and deeper shades of cream; and Taunton Deane, salmon-red colour, of duller shade than Duke of Norfolk, and flaked with a deeper tint; the lower segment has a white blotch minutely spotted with deep red colour.

All these varieties have exceedingly large flowers; and the size and strength of the spikes—most of which were developing two smaller spikes, in addition to carrying from twenty to thirty flowers—are an indication of the extraordinary success that attends the cultivation of this bold and handsome autumn-flowering plant at Langport.

page she speaks of four varieties as "indigenous." We should not consider the Elm as specially valuable for town-planting, but rather the reverse, unless in parks and large open spaces.

The "Willow" upon which the captive Hebrews hung their harps is quite as likely to have been the Euphrates Poplar, *Populus euphratica*. A printer's error has converted the name of the Elder from *Sambucus nigra* to *Tambuscus Nigra*. The "keys" of the Ash and Maple are not seeds. But we need not dwell on these minor matters; the author's powers of observation are manifest in her remarks about the fertilisation of the flowers, and in her remarks on the supernumerary buds of the Gueldres Rose, *Viburnum Opulus*, in the axils of the leaves of which we are told there are three buds, "one to grow and the others as reserves to be called up if needed." The work ends with a

section in which the reader is told how to distinguish the trees; but what is meant when we are told that the fruit of the Oak is "acorns, rough cup and smooth elongated bulb," we cannot divine. The book is provided with an index, and the illustrations are pretty and characteristic.

THE FLORA OF JERSEY.

Mr. Lester-Garland has published, through Messrs. West, Newman & Co., a "Flora of the Island of Jersey," which we can commend to all visitors to that favoured spot. It opens with an

Lester-Garland is that of Engler; hence this is, so far as we know, the first Flora of any part of Britain arranged on that system. The old group of *Monochlamydeæ* disappears entirely, its members being sorted into their proper places according to their real affinities. No experienced botanist will regret this change, though as an avowedly artificial group it had its advantages in facilitating research. No classification can be perfect; our knowledge is and will always be too imperfect to enable us to trace definitely the genealogy of living plants, and hence the value of an artificial system as a kind of index, a means to an end but

THE BOOK OF SHRUBS.

By George Gordon, V.M.H.

This is one of the series edited by Mr. Harry Roberts, and published by John Lane. There is still a sad want of knowledge of ornamental trees and shrubs amongst the owners of gardens, or perhaps even a more deplorable apathy on the subject. Landscape gardeners are often unaware of the resources at their command, and thus, as the demand is slight, it is only in a few of the large nurseries that we find a stock of any but the commonest things. Yet a visit to Kew or to some of the exceptional nurseries alluded to will suffice to reveal beauty and interest among trees and shrubs quite comparable with the endowments of any other class of plants. From Japan and China we are receiving additions to this department, and, thanks in especial to the discoveries of Dr. Henry and Mr. Wilson, not to mention earlier collectors, and to the energy and zeal of Messrs. Veitch, we may expect a steady influx of new and beautiful plants of this nature. There may be some of our readers who saw the extraordinarily numerous and varied collection of Chinese plants exhibited at one of the meetings of the Royal Horticultural Society this spring by Messrs. Veitch; and if that collection did not whet their interest and rouse their curiosity, the case must be more hopeless than we think it really is. The exhibits in spring of flowering shrubs shown by Messrs. Waterer, Veitch, W. Paul, G. Paul & Son, Cheal, Fisher, Son & Sibray, and others, are also amply sufficient to show what a wealth of beauty is at command. For the most part the trees are hardy and of the easiest possible culture. Mr. Gordon has done good service by calling attention to them first in a series of articles in the *Gardeners' Magazine*, and now in the little volume before us.

After a few judicious remarks on transplanting and cultivation, the author enumerates many of the more showy deciduous species, beginning with those that have A as the initial letter of their names, and ending with *Weigela*. American shrubs, shrubs with ornamental foliage, trees and evergreens, Conifers and Bamboos, all come in for mention, but it is obvious that in the compass of some eighty pages the treatment of the subject must be so far from exhaustive that we may hope at no distant time to be put in possession of that more complete work which is one of the requirements of Garden literature.

THE CUCUMBER SCAB.

(*CLADOSPORIUM SCABIES*.)

In the issue of the *Gardeners' Chronicle* for August 8, p. 100, a description was given of a new disease known as Cucumber Scab, which it is feared will prove to be an exceedingly hurtful scourge. As every detail in connection with this new pest is of importance until its life-history is ascertained, it must be recorded that since we have discovered that the convex and blackened cuticle is not an essential feature, we have also found that after the infected fruits have been kept undisturbed for twenty-four hours, the cut and broken surfaces, where the fruit has been broken across, and all exposed portions of the flesh, have developed a crop of the characteristic mould, which appears to grow vigorously, at once, from every fragment of the fruit. From this we may infer that the mycelium thoroughly permeates the fruit, and that every fragment of infected Cucumbers should be burnt at once, because millions of the conidia may be developed and ready for dissemination in little more than a day and night. In the illustration at fig. 64 the sporules are magnified about 400 diameters, and their dimensions are 10×8 by 12×8 , reaching to 20 to 25×8 m. (micromillimetres). *M. C. Cooke.*

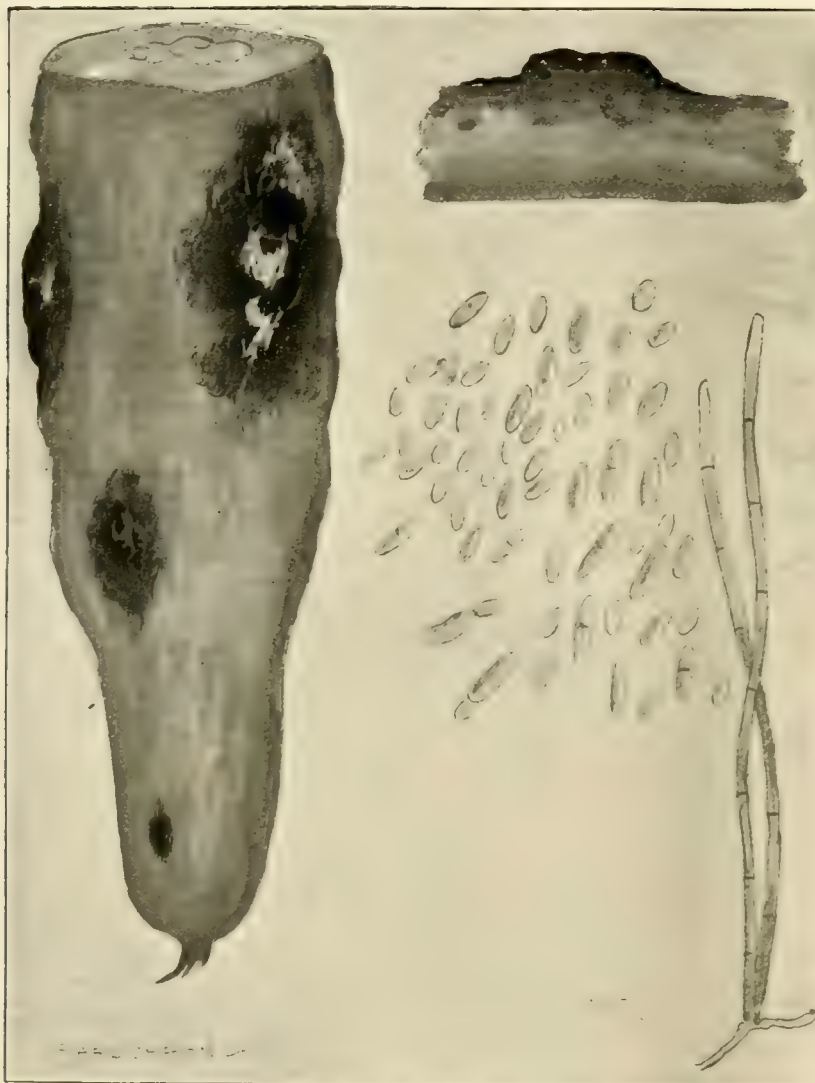


FIG. 64.—CUCUMBER SCAB (*CLADOSPORIUM SCABIES*, Cooke).

Fruit real size; threads and sporules magnified 400.

account of the physical features of the island, where summer merges into autumn, and autumn into winter; where severe frosts are unusual and snow seldom lies long on the ground. Thirteen frosty days and 1930 hours of sunshine in the year are quoted on the average of fifty years. Cider was once the chief article of export, but Earth Apples, or Potatoes, have taken the place of the Apples on the trees. Cultivation, drainage, and the erection of residences have done much to reduce the indigenous flora, which is dispersed over six different kinds of station, viz., the sandy beaches in the vicinity of the sea, the granite cliffs, the salt marshes, the moorlands, the cultivated table-land, and the moist valleys and meadows. The arrangement followed by Mr.

not the end itself. The systematic enumeration of Jersey plants follows the introductory chapter, and not only are the Jersey localities given, but also indications are furnished of the existence of the species in the other Channel Isles, in western France, and Europe generally. We do not find any special mention of the relationship between the flora of the Channel Islands and that of the south-western parts of England and Ireland. Attention is called to the very interesting fact that many Mediterranean species have made their way up the coasts of Spain and France to Jersey, which thus forms the northern limit of several of these plants. The book is evidently very carefully compiled, well printed, and provided with an index of genera.

THE APPLE CROPS AND CYDER-MAKING IN DEVONSHIRE.

At a time when the Apple crops over the country are much under the average, and the quality for the most part inferior, it is distressing to know that even in the notable Apple counties of Devon, Hereford, Somerset, Worcester, and Gloucester, the same state of things prevails. This fact is all the more regrettable since in these counties Apples are not only the fruit upon which so many of the poorer classes depend for domestic use in the winter, but they are equally or perhaps more important for the production of the staple drink, cyder. Much attention has of late been directed towards the extension of the trade, making this a profitable industry by improvement in methods of manufacture and by selection and cultivation of the best kinds of cyder Apples. The revival of an old industry of this kind has a considerable interest, especially as it has been allowed to fall into disrepute in consequence of the questionable methods adopted in the preparation of the beverage as well as in the material from which it is often made. One sees, for instance, in a good Apple season quantities of the fruit gathered and collected in heaps in the orchards that abound in this neighbourhood, the heaps being untouched until late in autumn or early in the winter months, and when removed in the ordinary farm carts the fruits are in such a state of decay as to suggest their use for manure rather than for making a wholesome drink. It is with the view of altering this, and using the fruits just at the time when they are fully ripe or "mellow," as well as in the adoption of a thoroughly clean and healthful system of manufacture, that cyder-making is now occupying the minds of the authorities in this country. Under proper supervision the neglected orchards will, it is hoped, be improved and become more remunerative, so that in good seasons in the future the Apple orchards of Devon may be as productive of healthy, well-grown trees as that shown in the photograph (fig. 65), for which I am indebted to Messrs. Henry Whiteway & Co., of Whimble, near Exeter, who are taking a lead in the cyder industry of Devon.

It is, perhaps, scarcely necessary to say that the photograph does not give an idea of what the orchards hereabout appeared like in the past spring, when flowers were not only scarce, but what there were were spoilt by late frosts, with the result that at the present time there is scarcely an Apple to be seen in any of the orchards in this neighbourhood. *John R. Jackson, Claremont, Lympstone, Devon.*

CULTURAL MEMORANDA.

TABERNÆMONTANA CORONARIA.

THIS free-growing stove plant produces pearly-white flowers from the points of the young growths during the summer months. Cuttings of 2 to 3 inches in length, taken off any time in the year and inserted in small pots filled with sandy soil, placed in a forcing-house or pit and afforded water, will root in due time. The rooted cuttings should be potted singly into 72-size pots in fine peat, with a sprinkling of sand added, making this moderately firm about the roots in potting; return to heat and afford water. When the new growth has grown a few inches nip off the points, and repeat this operation until bushy plants of the desired size are obtained, these being shifted into larger pots before the roots become matted until placed in their flowering-pots, which may range from 8 to 10 inches in diameter. In potting employ good turfy peat, with the addition of small

nodules of charcoal and some silver sand. The plant will succeed with ordinary stove treatment; the soil being kept uniformly moist at the roots, and the plants clean. *H. W. Ward.*

WATSONIA IRIDIFOLIA O'BRIENII.

A bed of this fine snow-white Irid is in fine condition in the open ground in the quarters devoted to Lily culture in the nursery of Mr. H. A. Tracy, Amyand Park Road, Twickenham, who stated that up to this season he, like many others, has had but indifferent success with it. Formerly he used to pot the bulbs in the spring,

from the points of the individual young shoots during July and early part of August. These being borne well above the dark-green narrow lanceolate serrated leaves, are very telling in effect, and command the attention and admiration of all who see the plants in flower; therefore I cannot help wondering why this charming *Spiræa* is not better known and more extensively grown than it appears to be. The plant is admirably adapted for planting singly on lawns, alongside shrubby walks, or, indeed, in any position where plenty of light and sunshine can reach it; moreover, it is a capital plant to cut from, as the flowers keep



FIG. 65.—AN EXCELLENT CYDER APPLE TREE IN DEVONSHIRE.

and although they made fine foliage they did not flower satisfactorily. This season the bulbs, which were also rather small, were kept dry in the bulb-shed until the first week in June, when they were planted in a bed in the open ground. They started into growth at once, and were afforded water copiously until they all, without exception, sent up flower-spikes. They were then given weak liquid manure occasionally, and the spikes became very strong and branched freely, showing flowers in great profusion. *J. O'B.*

SPIRÆA ANTHONY WATERER.

Anthony Waterer is one of the best, if not the very best, of the shrubby *Spiræas*. It is a profuse flowerer, producing as it does good-sized trusses

fresh a long time in a cut state. A good stock of this showy and very useful shrubby plant may be easily worked up from cuttings taken early in September, or earlier, and inserted in 48-size pots, duly crooked, and filled with light mould, and surfaced with silver-sand, stood in a cold-frame, watered through a rose, and kept close and shaded from bright sunshine for a fortnight or so, will soon form root and leaf-growth, when the little plants should be potted singly in small pots, returned to the frame, and watered, keeping the frame close until the roots have taken to the new soil, the plants being then subjected to a free circulation of fresh air, preparatory to planting them out-of-doors in the spring. *H. W. W.*

REMARKS ON THE CONDITIONS OF THE FRUIT CROPS.

(See *Tables, ante*, pp. 72-77.)

(Continued from p. 153.)

WILTSHIRE.—The Apple, Pear, Plum, and Cherry crops were almost totally destroyed by the severe weather we had between April 8 and 25 with scarcely a break. The severest frosts occurred on the 17th, 18th, 20th, 23rd, 24th, and 25th, when we experienced from 7° to 12° of frost on each night. The only crops saved were those against walls protected by glass copings and netting suspended in front. *T. Challis, The Gardens, Wilton House, near Salisbury.*

— Apples, Pears, and Plums are a general failure here, owing to the hard frost of April. Morello Cherries, Strawberries, Currants, and Gooseberries turned out better than was anticipated. *S. W. Tucker, Longford Castle Gardens, Salisbury.*

LANCASHIRE.—The fruit crops were never so bad in this district. Every fruit, except Strawberries, failed in consequence of late frosts. That of 6° on the morning of June 21 finished the work of destruction; Peas, French Beans, Potatoes, and other tender plants were either much injured or killed outright. On July 6 we were visited by a gale of wind from the west charged with salt spray brought a distance of 20 miles, which proved as disastrous as the frost to many subjects; even the foliage of forest-trees looked as if they had been subject to 10° of frost. *Wm. P. Roberts, Cuerden Hall Gardens, Preston.*

CORNWALL.—The cold weather we had in the months of March and April destroyed most of the blossom, and punished the wall-trees more than I have known for a number of years. All wall fruits are very scarce, and the Apple-crop is almost a failure. *W. H. Bennett, Menabilly, Par Station.*

— We had a magnificent show of blossom on all fruit trees, but the spring frosts were disastrous. Apples, Pears, Peaches, and Apricots are utter failures, despite the dry June—we only had 1.10 inches of rain. Strawberries have been remarkably fine and very good in flavour. Figs promise to be a very good crop. Peach blister was prevalent, but the trees have now outgrown it, and in common with all fruit trees are growing well. *A. C. Bartlett, Pencarrow Gardens, Washaway, R.S.O.*

DEVONSHIRE.—With one or two exceptions the fruit crop is a failure. The autumn of last year was wet and cold, and unfavourable for fruit trees. Pears and Apples blossomed very well, and I attribute the loss of crops to the unripened state of the wood. *Geo. Baker, Membland Gardens, Plymouth.*

— Apples, Pears and Plums are not nearly so plentiful as last year, but what there are appear to be clean and good. The sharp frosts experienced during April worked havoc with Cherries and Pears, and though Apricots appeared to set all right, and Cherries too, a great number have dropped during the stoning period. Peaches and Nectarines are good, and Raspberries have been abundant; also Strawberries, Gooseberries, and Red Currants. Cider prospects are far from good, last year's making being sold at 50s. a hogshead of 63 gallons. In some years it can be bought for half that price. *James Mayne, Bicton Gardens, East Budleigh.*

GLOUCESTERSHIRE.—During the sixteen years that I have resided in this locality I have not seen so poor a crop of fruit. The only redeeming feature is a sprinkling of Apples, of which the varieties Worcester Pearmain, Blenheim Orange, and Cox's Orange Pippins are the best. *Geo. W. Marsh, St. George's Nursery, Cheltenham.*

— The severe frosts of April, such as 9°, 10°, 11°, and as low as 20° of frost! destroyed all prospects of much fruit of any kind. We have no Pears or Plums, and very few Apples. *William Keen, Bowden Hall Gardens, Gloucester.*

HEREFORDSHIRE.—Taken all round, the fruit-crop is the worst we have experienced for many years. Apples and Plums are a very small crop; Pears, Cherries, and Black Currants almost a total failure. Other small fruits not good, Gooseberries only turning out fairly well on account of their having matured fruits from a second crop of blossoms, the first time I have ever known this. The damage was caused by three days' very severe frost, which cut off everything, even blossom-buds not showing colour. *John Watkins, Pomona Farm, near Hereford.*

— The only Apple carrying a good crop is Stirling Castle; and of Pears, Durondean and Marie Louise d'Uccle are the best. Apricots are a total failure. Strawberries were a good crop, especially the variety Laxton's Fillbasket. *Thos. Spencer, Goodrich Court Gardens, Ross.*

MONMOUTHSHIRE.—In these gardens the only variety of Apples carrying a heavy crop is Golden Summer Pippin, which, owing to its position, escaped injury during the April frosts. In many orchards the caterpillars of the Winter-moth have again been most destructive. Peaches and Nectarines are very good, and the trees are clean and healthy. *W. F. Wood, Llanfrechfa Grange Gardens, Caerleon.*

— Few Apples, except some cider varieties, carry fair crops, and Warner's King, Frogmore Prolific, Lane's Prince Albert, The Queen, Cellini Pippin, Lord Grosvenor, and Grenadier as bush trees carry light crops. Pears are almost a total failure, except some trees upon walls that were protected in spring by canvas blinds. Similar remarks apply to Plums. There is, however, a light sprinkling of fruit upon some bush trees, Victoria being the best. Cherries, with the exception of Morellos, are a complete failure; and Peaches and Nectarines are thin. *T. Coomber, The Hendre Gardens, Monmouth.*

SOMERSETSHIRE.—The worst crop I have experienced in thirty years. Splendid show till the frost in April; but even now we have fared better than many. Gooseberries, Strawberries, and Morello Cherries were good. Apricots have suffered in wood to a large degree. We have not 100 Pears in our garden, and not a sack of Apples. *John Crook, Forde Abbey Gardens, Chard.*

WORCESTERSHIRE.—There is little or no fruit of the staple kinds. Here and there a few orchards, or rather plantations, of Pershore Plums have cropped moderately. There are several notable exceptions in Apples, Court Pendu Plat (the "Wise" Apple, properly called, as the trees of this variety never bloom till all danger of frost is over); Stirling Castle (a regular cropper every season—truly this old Apple should be planted extensively); Schoolmaster, The Queen, Professor, and Pott's Seedling—this latter bears also every season. *A. Young, Witley Court Gardens, Stourport.*

— Apples are very thin; Lord Grosvenor, Worcester Pearmain, The Queen, and Lane's Prince Albert are the best. Several Peach-trees have been almost killed by frost, although partially protected. *F. Jordan, Impney Gardens, Droitwich.*

— The summary of the fruit crops on all sides is that one has to record the most disastrous all-round failure of a life experience. The only spark of consolation is that the causes were beyond human control, with comparatively few exceptions. Pears are a complete failure in the open, and there is only a sprinkling on best walls. It is now an established fact that no fruit blossom can stand from 6° to 14° of frost for ten nights in succession without serious injury. On

some of the above nights there were as much as 6° of frost at 10 P.M., increasing to 14°—indeed, quite thick ice was formed during several nights, consequently the tender fertilising organs of the buds and flowers were completely frozen through and utterly destroyed. This happened in the middle of April, following upon the heels of a mild winter and early spring. *W. Crump, Madresfield Court Gardens, Malvern.*

WALES.

CARNAEVONSHIRE.—The most unsatisfactory for forty years.—*W. Speed, Penrhyn Castle Gardens, Bangor.*

PEMBROKESHIRE.—A few of the hardiest Apples have escaped, notably King of the Pippins and Winter Hawthornden. Such fruits as Gooseberries and Currants, which very rarely fail, were a short crop this season. *George Griffin, Slebeck Park Gardens, Haverfordwest.*

(To be concluded.)

The Week's Work.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Peach and Nectarine-trees.—When the fruits have been gathered from early varieties, cut away all wood that has carried fruit this season that will not be required for extending the trees. The sun's rays, which are necessary to mature the wood, will then be more likely to reach all parts of the trees. Aphids are especially troublesome this season on the points of the shoots, and can best be destroyed by dipping the ends into a vessel containing one of the approved insecticides. Do not permit the leaves to shade fruits that are ripening; and if birds and wasps are troublesome, cover the trees with fine-meshed netting.

The Apricot.—The few fruits that escaped the May frosts and got safely through the "stoning" period have cracked badly, and are useless for dessert purposes. Remove the laterals and sub-laterals before they have made much growth, and secure the leading growths to the wall, for the wood being very brittle it is easily broken by gales.

Hints on General Work.—Finish the planting of Strawberries, so that they may become established before winter. Autumn-fruiting varieties have suffered from the heavy rains and low temperature. Where the plants are growing on a south or west border it is good practice to afford them the protection of a cold frame; but abundance of air must be afforded during fine weather by tilting the lights sideways. Remove all runners that have formed lately upon the plants in the open, and keep the Dutch hoe going between the plants during fine weather. Morello Cherries are now ripe, and if well protected from the wasps and birds will keep in good condition on the trees for several weeks. When fruit is required look over all the trees and gather the most forward.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Late Tulips.—All the later-flowering kinds of Tulips, such as the "Darwin," "Cottage," "English," "Parrot," also varieties of *T. Gesneriana*, and most of the true species require to be planted earlier than the ordinary Dutch forms, because they need a longer season for root-growth. Bulbs, therefore, which were lifted a few weeks ago and dried under cover, as advised, should now have the outer scales rubbed off (especially if these are not bright in appearance, but show signs of fungoid spotting), and when they have been sorted into sizes, they should be replanted. Do not throw away the small bulbs, but plant them by themselves, that they may develop into flowering bulbs. By keeping a supply from such young stock vigorous growth may be maintained in the collection. If the soil is inclined to be heavy and unsuited to Tulip-culture, it may be much improved by a heavy dressing of river-sand or road-grit, and if at all poor good rotten manure and

leaf-mould may be dug in deep enough to be well below the bulbs when planted. Insert the bulbs thickly enough to enable the plants to support each other, and at the same time not to be overcrowded. No general rule can be given for this, as the leaf-growth varies greatly according to the variety. From 4 inches to 6 inches deep will be sufficient, choosing the latter depth where the soil is light. *T. Greigii*, *T. Clusiana*, *T. persica*, and *T. Sprengeri*, &c., appear to prefer a comparatively sheltered position on the rockery rather than a place in the open.

Alliums.—Among the Alliums are several very handsome species, perhaps the best-known of which are *A. moly*, very suitable for planting in warm soil in a sunny position; and *A. neapolitanum*, an excellent plant for naturalising in the shade of trees. *A. Ostrowskianum* is an excellent plant for the rockery; and another good species to plant is *A. pedemontanum*. Alliums are somewhat neglected, and the present being a good time for planting, this note may be useful in drawing attention to them.

Alpines.—In Alpine gardens and rockeries many species are planted which are certain to succumb if the winter be very wet. At this time of the year small pieces of the various Saxifrages, Sempervivums, &c., may be readily rooted in shallow boxes containing gritty soil, and, if kept in a dry frame during the winter, will be useful to replace any established clumps that may fail. *Saxifraga pyramidalis* especially, and some others, will not winter out here unless planted so that snow cannot lodge on them. Take slips or cuttings of such as these now; and it is a good time to raise stock generally.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Greenhouse Climbers.—*Tecomas*, *Bignonias*, *Passifloras*, *Tacsonias*, *Cobæa scandens*, and *Mandevilla suaveolens* usually make so much growth during the summer months that it becomes injurious to plants growing beneath them unless it is occasionally thinned out. This will be the more necessary now that the days are getting shorter, therefore cut the growth away freely with a knife wherever it is at all crowded. *Heliotropes* that appear untidy may be spurred fairly close back, and will then flower again about Christmas if afforded a little fire-heat early in November, or as soon as frost or excessive damp renders it desirable. Do not syringe *Lapagerias* that are developing blooms. *Bougainvillea glabra* and *B. Sanderi*, trained near the glass roof in the orangery here, are making a good show now, but the former is much brighter and the flowers larger than those of *B. Sanderi*, consequently the older variety is preferred. Plants of *Luculia gratissima* or *Pineana* growing in beds or borders, and now setting their flower-heads, should be kept drier overhead for a time, and if there be any thrips the leaves had better be sponged with soapy water.

Ferns.—Plants in small pots may be transferred to larger ones if it is intended to keep them growing. If it is found necessary to sow each autumn to maintain a stock for thumb-pots, select fertile fronds now; but where plenty of ventilation is afforded a fernery, there are generally sufficient seedlings to be found among the shingle or other staging material. Lay the fronds with spores on sheets of paper, cover them, and place them on a shelf until the spores are ripe, when they may be sown in small shallow pans filled with a peaty, sandy soil, made firm and covered with sheets of glass. When germination has taken place, remove the glass, and as soon as the young plants are ready, prick them off into other pans and keep them near to the glass. The sun's rays being less powerful now, gradually reduce the shading, especially in the case of *Adiantum cuneatum* grown for cutting purposes.

Campanula pyramidalis remains a very long time in flower if kept in an airy structure, free from overhead moisture, and its perfume is of the sweetest. Any old plants that may not have flowered should be transferred into pots a couple of inches larger, to make good plants for flowering next summer. Seedlings raised this year should

be fit for 8-inch pots, and may be afforded a similar soil to that recommended for *Richardias* three weeks since. Place the plants in full sunshine, and lay the pots on their sides during heavy storms. This is necessary in the case of all newly-potted plants standing in the open, and to such greenhouse plants as *Azaleas*, *Ericas*, *Camellias*, &c.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Miltonia Roezlii M. Blevana.—These plants are rather uncertain in their flowering season, and often when they are healthy and vigorous they produce two displays of flower in one year; but there is little doubt that those produced during April and May are by far the best. At Westonbirt the plants afforded a good display at that season, and when the flower-spikes had been removed, the plants which are cultivated in a leaf-soil compost, were kept rather dry at the roots until new growths began to push. These growths are now commencing to make new roots, any repotting therefore that is necessary may be given attention. Their culture should be very similar to that afforded *M. vexillaria*, except that they need more heat, and should be placed in a shady corner of the warmest house. The plants give better results when the roots are confined, over-potting should therefore be avoided.

Masdevallias.—The robust-growing species succeed best in the cool-house, where they are now fast completing their growth and making new roots freely from the base. When these are visible the plants may be repotted or topdressed without delay. The compost should contain leaf-soil, this being one of the many species that thrive admirably in it. Use therefore equal parts of rough leaves, turfy-peat, and fresh sphagnum-moss, and add plenty of sand. Press this moderately firm about the roots of the plants, and cover the surface with a neat layer of clean moss. Avoid over-potting, and make sure that perfect drainage is supplied each pot. The most critical time for these plants is that following the potting process, before the roots have secured a good hold of the compost. It is then most easy to over water them, and thus lose many leaves. The material should be in a moist condition when it is used, so that some time will elapse before the plants will need to be afforded more, which should be a thorough soaking. The plants will also need a little extra shade for a time; but when they are re-established, let them be placed close up to the light so that newly-made leaves may mature. As the days become shorter much less water will suffice, it being safest to keep them on the dry side during winter.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Celery.—The earliest Celery should be well blanched and fit for use. Afford later plantings attention, that a good succession may be maintained. No watering need be done at present, owing to recent rains. Remove side-shoots and all decayed leaves, and when the plants are quite dry draw small quantities of earth around them, making it as fine as possible, and remembering that much soil should not be applied at one time, nor on any account should soil be placed above the hearts of the plants. The latest batch for use in March and April will not require to be earthed until October or November, but the plants should be looked over carefully, removing all offsets, and keeping the surface-soil well stirred with the Dutch-hoe. Dust the plants in the early morning with fresh soot.

Cardoons, like Celery, should be blanched by degrees. Place a few inches of stiff brown paper round each stem first, following this up with hay-bands, and finally banking-up the soil about them. Choose fine days for the work, when the plants will be quite dry.

Mushrooms.—When sufficient material has been got together and sweetened by frequent turnings and exposure to the air, beds should be made in the Mushroom-house to afford successional crops. Let the beds be made to a depth of 2 feet or 2 feet 6 inches. Tread and beat the manure with

a wooden rammer as the building-up proceeds, for it is essential that the manure be made as firm as possible. Do not spawn the bed until the heat is declining to about 80°. Break the spawn into pieces as large as a turkey's egg, and put the pieces into holes 3 inches deep made with the hand at distances of 9 inches. Cover the spawn with manure taken from the holes, pressing it back very firmly. Defer soiling the bed for a week, and in the meantime place over it a thin covering of long stable-litter or straw. The atmosphere of the house should be cool and moist, avoiding fire-heat.

Tomatos.—The season has not been a good one for Tomatos out-of-doors. Expose the fruits to the sun and air as much as possible by keeping the plants free of all growth, and remove or cut back some of the leaves. Cut the fruits as soon as they show signs of colouring, and place them in a warm position indoors, where they will finish ripening.

Beans.—See that Runner Beans are securely staked against strong winds by placing extra supports to keep them in an upright position. Trim the loose growth away with the shears after it has reached the top of the stakes. Gather the pods when they are of moderate size, or they will become unfit for use. French Beans sown in pits and frames should have the points of their growth pinched back to the seed-leaf as early as possible to induce them to branch. Make another sowing in pots or heated pits.

FRUITS UNDER GLASS.

By T. H. C.

Peaches and Nectarines.—If the trees intended for forcing very early next season were forced last season, they will need no encouragement to rest at the proper time provided previous instructions in regard to ventilation have been carried out, and the trees were partially pruned after gathering the fruit. Do all that is possible to retain the foliage clean and healthy until it ripens naturally. It is important at this stage that the trees shall not suffer from a lack of water at the roots; much of the evil of bud-dropping in the early months of the year is due to a deficiency of root-moisture at this season. Thoroughly wash with the hose or syringe the foliage upon trees from which the fruit has recently been gathered. Thin out the shoots that will not be required for fruiting next season or for extending the trees, and throw the ventilators wide open, or, if possible, remove the roof-lights altogether. If the trees have borne an exhaustive crop, afford them liquid-manure or other approved fertiliser. Expose the fruits on later trees to the sunshine, and syringe the trees in the morning and afternoon until the fruits are approaching ripeness.

Unheated Houses.—Houses containing late varieties of the Peach and Nectarine should be closed early in the afternoon that the sun-heat may be preserved, which will aid the ripening of the fruits, and mature the wood that will fruit next year. Open them again a little top and bottom in the evening to dispel superfluous moisture. Tie the shoots in thinly over the trellis, so that light and air may freely circulate among them. Remove all extra strong-growing and sappy shoots. When watering, liquid-manure may be afforded aged and heavily cropped trees, but clear water only should be given to young trees. Forceful syringings with clear water will keep down red-spider, and if mildew is troublesome, dust the affected parts with flowers-of-sulphur, removing and burning any fruits that are badly affected.

Tomatos.—If not already done, pot on into well-drained clean 6-inch pots Tomatos for winter fruiting, employing a compost consisting of three parts good fibrous loam, and one part leaf-mould, adding a small quantity of charred garden refuse, mortar-rubble, and a sprinkling of "Veltha" Powder. Make the soil moderately firm, and if possible place the plants thinly upon a base of ashes in a pit close up to the roof-glass. Encourage a sturdy short-jointed growth by free ventilation in fine weather, but in dull and sunless weather maintain a slight heat in the hot-water pipes. Put a stake to each plant, and grow on as cordons, rubbing out the side-shoots as soon as they form.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

WEDNESDAY, SEPT. 9—
 { Royal Caledonian Horticultural Society's Show in Waverley Market, Edinburgh (two days).
 { York Dahlia Show.

SATURDAY, SEPT. 12—Royal Botanic Society Meet.

SALES FOR THE WEEK.

MONDAY to FRIDAY, SEPT. 7 to SEPT. 11—
 Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30 o'clock.

THURSDAY NEXT—
 The whole of the plants at Cuckoo Hall Nursery, Cuckoo Hall Lane, Lower Edmonton, by Protheroe & Morris, at 12 o'clock.

FRIDAY NEXT—
 Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—60.7.

ACTUAL TEMPERATURES:—

LONDON.—Sept. 2 (6 P.M.): Max. 84°; Min. 59°.
 Sept. 3.—Fine, warm. 70°.

PROVINCES.—Sept. 2 (6 P.M.): Max. 78°, North of Scotland; Min. 50°, Home Counties.

By the aid of long experience and persistent effort, horticulturists may fairly claim to have made two blades of grass grow where one only grew before; moreover, the "grass" is of better quality. We get it earlier, we gather it in later. The advantages we have thus derived from improved methods, more rigorous selection, and better opportunities do but enable us to foresee the infinitely greater benefits that we or our immediate successors may derive from the application to practice of the lessons of science. As cultivators our concern is with the living plant. The more we know of the way in which the plant lives and of the manner in which it carries out its life's work, the fuller our knowledge of the conditions and limitations under which these operations are carried on, the greater will be our success as practical men. Ordinary routine work well carried on ensures a large measure of success, but it affords no hope of advancement, no chance of breaking new ground, no power of adapting ourselves to unforeseen conditions, or availing ourselves of the ore which men of science are constantly bringing to the surface for us to utilise.

If these remarks appear transcendental and unpractical we have but to turn to the achievements of science in other departments to be convinced that similar results are within our reach also. Wireless telegraphy, the penetration of otherwise opaque substances by certain light rays, are only two illustrations of the way in which scientific discovery, at first regarded as unpractical, has rapidly been utilised for the great benefit of humanity. Considerations of this nature led us to welcome the proposal that emanated from Professor BEACH, that an attempt should be made to organise scientific work in relation to horticultural practice. From some letters addressed to us by Professor BEACH we are gratified to find that his proposal has already

been cordially welcomed in the United States. Matters of this kind are not confined to one nation, but they concern all humanity, and hence, whilst, on the ground of patriotism, we might have been pleased if such a movement had originated in the Old Country, we can but rejoice that it has been well taken up in the New. Our cousins have forged ahead of us in this matter, the means at their disposal are larger and more varied than any we enjoy; their experiment stations, their colleges, the organisation of their Government Agricultural Department are all in advance of anything we can show in the same line.

We have in mind more especially the educational facilities enjoyed in the United States and in Germany, and the abundant opportunities afforded for research in those countries. We do not for one moment overlook what has been done and what is doing at Kew and at Rothamsted. We have every reason to be proud of those establishments as unsurpassed in their way, but their work lies upon such different lines that they are above and beyond comparison.

Professor BEACH, who is the "Horticulturist" of the New York Agricultural Station at Geneva, N.Y., writes to us as follows:—

"While the need of better organisation of scientific work along horticultural lines has been felt in this country for some time, I was quite unprepared for so enthusiastic and generally favourable a reception as the proposition met with. I enclose a copy of the circular letter announcing that organisation has been determined on.

"While we American horticulturists are endeavouring to take a step forward in the organisation of our scientific work, we do not forget our indebtedness to the mother country. How different would be the aspect of both the art and the science in these United States had we never had the assistance of English gardeners, and had Kew never existed!"

"The organisation of the Society for Horticultural Science proposed in my circular letter of June 30 has been decided on. The proposition met with a wide and enthusiastic and almost unanimously favourable reception among not only horticulturists, but also a considerable number of botanists and other scientists. The need of the Society is keenly felt, and the time appears ripe for inaugurating the new movement. An attendance of at least thirty of those interested is assured for the Boston meeting, and Professor L. H. BAILEY has consented to preside at the first meeting.

"The circular letter has elicited various and often divergent expressions of opinion as to the organisation, affiliation and policy of the Society, especially as to its affiliation. In order that the whole subject may be gone over thoroughly and deliberately, a preliminary meeting for organisation and conference will be held in the rooms of the Massachusetts Horticultural Society, Wednesday afternoon, September 9, at two o'clock. It is hoped to have the fullest possible attendance at this meeting. The headquarters of the Society will be the same as those of the American Pomological Society."

We hope to be able to record the results later on.

"THE BOTANICAL MAGAZINE."—Mr. W. B. HEMSLEY, F.R.S., Keeper of the Herbarium of the Royal Gardens, Kew, is now associated with Sir JOSEPH HOOKER in the editorship of this periodical. A more appropriate appointment could not have been made.

MR. W. B. LATHAM.—A meeting of Nurserymen, Gardeners, and others interested in horticulture was held on Saturday, August 22, to consider the best means of recognising the many years of valuable service rendered to horticulture by Mr. W. B. LATHAM, who is resigning the curatorship of the Botanical Gardens, Edgbaston, and at that meeting it was unanimously resolved to entertain him at a Complimentary Dinner, to be held at the Colonnade Hotel, New Street, Birmingham, on Thursday evening, September 24, and in the meantime to raise a fund for the purpose of presenting him with a Testimonial suitable to the occasion, and such that will represent the good wishes of all lovers of horticulture in Birmingham and district. In addition to having held the curatorship for thirty-five years, he has been Chairman of the Birmingham Chrysanthemum Society for thirty years, of the Gardeners' Association for seventeen years, and of the Birmingham Spring Flower Show (at one time held in the Town Hall) for fifteen years, thus establishing a unique record of useful activity in the interest of horticulture. Mr. J. HUGHES, High Street, Harborne, is the Hon. Sec.

NOVELTIES FROM QUEDLINBURG.—We have received from Mr. ROEMER, of Quedlinburg, Germany, a plant of *Begonia semperflorens* Golden King. It is described as a variegated sport of the darkest *Begonia semperflorens* Zulu King, that was introduced in the autumn of 1897. The plants of this novelty, as grown under glass, are of a stout and regular bushy habit, and branch freely. The leaves are very small, round, upright, and bright sulphur-yellow coloured, marked sometimes with spots or blotches of an orange colour. The nerves or veins of the leaves are sometimes of the same yellow colour, but at other times of a lively green colour. The flowers are rich crimson, and the seed-pods crimson-red. When this *Begonia* is planted out the yellow colour becomes bright carmine or carmine-rose on the margin of the leaves. Mr. ROEMER states: "All the other yellow-leaved varieties of *B. semperflorens*, such as *B. semperflorens atropurea foliis aureis*, and also of *Begonia semperflorens* Golden Ball, are less attractive than Golden King, and the flowers of Golden Queen are deeper in colour."

A VARIEGATED HELIANTHUS.—Mr. ROEMER also sends us a plant of a variegated *Helianthus*, of which he states "most of the plants of *Harpalum rigidum foliis aureis*, or *Helianthus rigidus foliis aureis*, are about 5 feet in height. They are vigorous in habit and branch freely. The rough leaves are bright sulphur-yellow coloured, sometimes variegated with green. The flowers are of good size and of a darker colour than the leaves. I dare say there are few perennials that have such bright foliage, and I am sure it will be found valuable for planting in groups or in beds; but single plants will also be very effective. The plants are perfectly hardy and have withstood several winters with me in the open ground without any protection or covering. Last year about 50 per cent. of the seedlings came true from seed.

DR. AUGUSTINE HENRY.—Scientific circles have been rejoiced by the return to London of this genial and accomplished man, a native of Ireland, who went out to China, and has now retired from the Chinese Customs after a service of twenty years. He is a distinguished botanist and ethnologist, and delivered two lectures in the Cork Exhibition, on Wednesday evening, August 26, at 8.30, on "Primitive Folk of China"; and on Thursday evening, August 27, on "Forests, Wild and Cultivated." Dr. HENRY, who is an accomplished and interesting speaker, has the art of using his learning lightly. He has enriched the Herbarium at Kew with many thousands of plants, a large proportion previously unrecorded, and has contributed many articles to these columns

on Chinese plants. He has also made a special study of the characteristics and usages of the singular and thrifty people among whom he spent some of the most active years of his life. The lectures above alluded to were illustrated with slides from Dr. HENRY's valuable photographs. Having, while in China, been impressed by the forests there and the choice wood-craft, or rather wood-working, thrift and skill of the Chinese, Dr. HENRY has taken up forestry as a special study, and has inspected some of the best-managed forests, not only in Great Britain and Ireland, but also on the Continent, and in tropical regions as well. Quite recently a visit to the sandy Landes of France, where *Pinus maritima* (*Pinaster*) has succeeded so well, convinced him that much good work of a similar kind, viz., the reclamation and planting of waste and barren tracts of land, might be profitably carried out elsewhere, especially in Ireland. He is at present assisting in the production of a sumptuous work on trees, the inception of a well-known traveller and scientific naturalist, who has seen trees and forests, wild and cultivated, in nearly every part of the world. Dr. HENRY is still in the prime of life, his energy and enthusiasm are alike remarkable, and he will carry with him in his new spheres of labour the good wishes, not alone of his many personal friends, but of all interested in forestry, ethnology, botany, and the political economy of our native land. F. W. B.

THE ICELAND POPPY.—Messrs. STORRIE & STORRIE, of Dundee, have kindly sent us a few flowers of a peculiarly fascinating strain of this lovely Poppy, the flowers of which present delightful combinations in colour-shades, particularly of yellow, orange, rose, and red. Some of them are flaked similar to those shown at the Holland House show on June 25, when the strain was distinguished by an Award of Merit.

THE NEW FROGMORE.—A correspondent writes:—"There is going on in the Royal gardens at Frogmore a process of change or evolution that bids fair to make not only a new but a vastly improved Frogmore. As rapidly as a big staff of men under Messrs. MACKENZIE & MONCUR, of Edinburgh, can perform the work, all the old glass structures are being cleared away, and in their place are being erected lofty and broad vineries, Peach, Fig, and other houses, running east and west of the entrance which fronts Mr. MACKELLAR's residence. On the west side the houses vary a little in breadth; on the east side they will be all three-quarter spans, and more lofty. Fronting these will be borders and a broad walk; in front, a long glass corridor, from the south side of which will radiate a series of span plant, Melon, Cucumber, and other houses. Two huge boilers will furnish the heat required, and the whole of the hot-water pipe mains will be laid in a series of deep, broad, brick subways, now being constructed, so that all repairs or other needful attention can be given without opening the ground. The splendid bothies have already been described and illustrated in these pages. That the change or evolution thus being effected was needed there can be no doubt; still it is but what we are entitled to look for in the gardens of the King of Great Britain, where all should be of the very best. It is something on those lines we hope in time to see evolved out of the new Chiswick at Wisley, where a bold designer and an able gardener, such as Frogmore has, might create a grand garden worthy of the horticulture of Great Britain."

FIRST GARDEN CITY.—It would appear that this scheme has taken definite shape, and that operations will shortly be commenced in the laying out of some 4,000 acres of land near to Hitchin, on the Great Northern line from King's Cross. The site is near the railway junction at Hitchin, and the land is stated to be all that

could be desired for the mixed purposes of residential, factory, and agricultural operations. Water, the promoters state, is found in abundance, and there are various roads over the property, which is now in the hands of a strong firm prepared to do all that is necessary for the formation of the first Garden City.

THE "BELVEDERE."—Quite recently a very ornamental annual plant, about 2 feet in height, of dense pyramidal habit, light green linear leaves turning eventually to purple, was exhibited by Messrs. CANNELL, and attracted much attention, as suitable for bedding and other decorative purposes. It was soon recognised as a *Chenopod* or Goosefoot, known to botanists as *Kochia scoparia*, but long cultivated in gardens, though now almost forgotten, so that we failed to find any references to it in NICHOLSON'S Dictionary. Turning over MILLER'S *Gardeners' Dictionary* (eighth edition, 1768), we came across the following account of the plant, which we deem of sufficient interest to quote:—

"[CHENOPODIUM (SCOPARIA).—Goosefoot with a hairy Flax-leaf, commonly called Belvedere, or Summer Cypress.]

"The third sort is sometimes cultivated in gardens; it is a beautiful plant, which is naturally disposed to grow very close and thick, and in as regular a pyramid as if cut by art. The leaves are of a pleasant green; and were it not for that, it hath so much the appearance of a Cypress-tree that at some distance it might be taken for the same by good judges. The seeds should be sown in autumn; and in the spring, when the plants are come up, they may be planted into pots of good earth, and kept supplied with water in dry weather: these pots may be intermixed with other plants to adorn court-yards, &c., where they will appear very handsome, until their seeds begin to swell and grow heavy, which weigh down and displace the branches; at which time the pots should be removed to some abject part of the garden, to perfect their seeds, which if permitted to fall upon the ground will come up the next spring, so that you need be at no more trouble in propagating these plants, but only to transplant them where you intend they should grow."

The plant is an annual, and a native of Central and Southern Europe. It is the *Chenopodium scoparia* of LINNÆUS, and derived its name from "scopæ," meaning thin branches suitable for making brooms; or from "scoparius," a sweeper. By some it has been identified with the "scopa regia" of PLINY (Book xxi., cap. vi.), "*Non levior ei, quam scopam regiam appellat; quanquam folia ejus olent, non flores.*" Here a comparison is made with the perfume of "Caltha"; but whilst it is the flowers of Caltha which are fragrant, it is the leaves of the *Scopa regia* which have that property. The identification of the *Scopa regia* of PLINY with *Kochia scoparia* of modern botanists seems very doubtful, for although the dried twigs might serve for a light broom, the leaves are destitute of fragrance, or have a slight weedy odour which is scarcely agreeable. LINNÆUS, as it will be noticed, wrote the specific name with a capital S, and was at no pains to make the generic and specific names of the same gender, whence it is to be inferred that *Scoparia* was originally used as the name of a genus. Someone who has leisure at command might probably light on the name in some old herbal; we have looked in vain in GERAARD and CHABRAEUS. The *Scoparia dulcis* of LINNÆUS is a totally different thing.

THE LONDON DAHLIA UNION.—We are informed that, owing to the closing of the Royal Aquarium, Westminster, the annual display of Dahlias made by the Union, which comprises all the leading Dahlia-raisers and cultivators of the day, will take place in the Prince's Hall of the Earl's Court Exhibition, which is near the entrance in the Warwick Road, on Wednesday and Thursday, September 16 and 17. It is during this particular week that the popular Cactus Dahlia is seen at its best, and on this occasion there will be on view not only all the finest new varieties of the present year, but several from abroad, including some very singular and interesting variations of the

type, of home and foreign production. As the Dahlia show will form a part of the General Exhibition it is free to all who pass the gates, and the flower-loving public will have an opportunity of witnessing one of the largest exhibitions of all types of the Dahlia ever seen in London. The Secretary and Manager is Mr. RICHARD DEAN, V.M.H., Ealing, London, W.

"THE OFFICIAL HANDBOOK TO THE PUBLIC PARKS OF LEEDS AND KIRKSTALL ABBEY."—This guide, by ARTHUR T. ALLSOP, Parks Superintendent, is superior to most books of its class, and certainly deals with details of a city deserving of carefully-written descriptions. The open spaces seem to be kept up on the wise principle that a park should be a park, and a playground a playground; and that sports and games are important adjuncts, as well as museums and schools. Judging by the letterpress and the many illustrations, Mr. ALLSOP manages an important task with much skill. In his Handbook he mentions the various parks and recreation-grounds about Leeds, telling us something of the bird-life therein, while we read also of the attractions of Woodhouse Moor and Ridge, and of Kirkstall Abbey, and various other interesting places near Leeds. In connection with all, we must remember the difficulties attendant upon all horticultural operations when carried on in the vicinity of a large and crowded city.

ANOMOTHECA CRUENTA.—This pretty little Irid is a native of the Cape of Good Hope, whence it was introduced long ago; but up to the present time we were not aware that it had any claims to be considered a hardy plant. Captain ROGERS, however, has sent us from Plymouth a drawing of the plant, which he tells us has come up regularly for the last three years in his stable-yard, near the root of a Plum-tree, and in a situation where it gets no benefit from the morning sun, and indeed only a scanty supply of sunlight for the rest of the day.

"HOLIDAYS IN NORTH GERMANY."—The publishers (for the Great Eastern Railway) send us, from 30, Fleet Street, a tempting handbook, edited by PERCY LINDLEY, and telling us about holidays in North Germany. Greatly increased facilities now exist for visiting Berlin and the interesting old towns of Brunswick, Hanover, Hildesheim, &c., combined with the picturesque Hartz Mountains district. The route recommended is the much-advertised one *via* the Hook of Holland, and is certainly direct and convenient.

OLD-TIME NAMES.—Mr. DIVERS sends us some extracts from a seed-list of 1710, in which mention is made of "Dutch Admirals, Hotspur Beans, Belvedere Double Larksheel, Wing Pease, and Cardus," and asks us to say to what varieties these names severally apply. We do not know what Dutch Admirals are. Perhaps some of our correspondents can help us in this matter. Hotspur Peas are mentioned in Miller's *Gardeners' Dictionary*. Belvedere is none other than *Kochia scoparia*, recently re-introduced, but known in MILLER's time as Summer Cypress. Larksheel is synonymous with Larkspur. The winged Pea *Pisum* (*Ochrus*) is described as having an entire leaf, sending out tendrils. Cardus (? *Carduus* or ? *Cardoons*), we cannot find the name. It may be interesting to quote the names of the Peas given in the eighth edition of MILLER's book, dated 1768, the first in which the Linnean nomenclature was adopted, and therefore a book of very great interest. Here are the names of the Peas:—The Golden Hotspur, the Charlton, the Reading Hotspur, Masters' Hotspur, Essex Hotspur, the Dwarf Pea, the Sugar Pea, Spanish Morotto (*sic*), Nonpareil, Sugar Dwarf Sickle Pea, Marrow Fat, Dwarf Marrow Fat, Rose or Crown Pea, Rouncival Pea, Gray Pea, and Pig Pea. It is interesting also to note that the Crown

Pea, then called *Pisum umbellatum*, was grown in these times; indeed, it is described and figured in Gerard's *Herbal* (1597), under the title of Tufted or Scotch Pease, long before the silly story got afloat that this was obtained from an Egyptian mummy-case, whence the name Mummy Pea, under which name we generally get some specimens every year. The appearance is due to a fasciation or blending of several stalks into one ribbon-like stem, surmounted by a "crown" of flowers and pods at the top.

CROYDON HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—On the 26th ult. about thirty members visited Burford Lodge, and through the kindness of Sir Trevor Lawrence

Tea, J. B. Carruthers.—*Report on the Trivandrum Museum and Public Gardens, 1901-1902.* The season was not unfavourable for the plants; the number of these was greatly increased.—*West Indian Bulletin*, vol. iv., No. 2. Contents: Ground-nuts in the West Indies, W. G. Freeman; Cultivation of Pine-apples, Bay Oil, and Bay Rum, Culture and Uses of Eucalyptus, &c.

DAHLIAS.

Now that Dahlias are to the fore, we have the opportunity once again of figuring the very beautiful *D. imperialis*, or Tree-Dahlia. This attains such a height that it is only in establishments provided with lofty structures that it has room to develop. Indeed, the last time we saw it, it had to be laid low to exhibit its attractive lilac



FIG. 66.—DAHLIA IMPERIALIS, GROWING IN QUEENSTOWN, CAPE COLONY.

the party was shown round the gardens by Mr. BAIN, the head gardener. In the afternoon Albury Park, the residence of His Grace the Duke of NORTHUMBERLAND, was the rendezvous, and an inspection was made of the spacious gardens and pleasure-grounds. Fine weather was experienced throughout the day. This was the fourth annual outing.

PUBLICATIONS RECEIVED.—*Bulletin du Jardin Impérial Botanique de St. Petersburg*, Tome III., Livraison 5, Michigan State Agricultural College Experiment Station Horticultural Department—*Vegetables and Bush Fruits*, by L. B. Taft and M. L. Dean.—*Agricultural Bulletin of the Straits and Federated Malay Straits*, June. Edited by H. N. Ridley. The contributions to this periodical relate chiefly to the cultivation and extraction of rubber.—*Circulars and Agricultural Journal of the Royal Botanic Gardens, Ceylon*, January: The Tea Tortrix; April: Report by the Controller of the Experiment Station, Peradeniya, Herbert Wright; May: The Lobster Caterpillar, E. E. Green; July: Root Disease in

flowers. The specimen we now figure (fig. 66) is growing in the Botanic Garden, Queenstown, Cape Colony, and we are indebted to the Secretary, Mr. F. Bernick, for the illustration. The plant was figured in our columns on April 2, 1870, p. 459. It may be added that Queenstown is in 32° S. lat., and has an elevation of 3,500 feet above the sea, which is over 100 miles distant.

In our SUPPLEMENTARY ILLUSTRATION the garden Dahlia is represented by one of the newer varieties of the "Cactus"-flowered type. "Cheals' White" has thin, long, narrow florets, which incurve towards the centre, a characteristic that has been described as "claw-like," and being of moderate size, it is a very good specimen of the Cactus Dahlia. Some remarks upon the judging of this type will be found on p. 181, in the report of a lecture delivered at the Drill Hall.

KEW NOTES.

IMPATIENS OLIVERI.—This is a new introduction from Uganda which we owe to Sir John Kirk, who collected seeds of it in that country, and sent them to Kew with the following particulars:—"Impatiens, found 390 miles inland up railway; altitude 6,800 feet in volcanic rock or tufa; stems erect, fleshy, 4 feet high; flowers white, grows in clumps." The plants now flowering at Kew have stems 2 feet high, branched from the base, the leaves in whorls, oblanceolate, 3 to 6 inches long, the margins clothed with bristle-like cilia; flowers several on a slender pedicel 3 to 4 inches long, of the same form as those of *I. Sultani*, but 2½ inches across, and of a clear blush-pink colour paling to white in the centre; spur 2 inches long, white. This is perhaps the largest-flowered of all the Impatiens, and promises to be a first-class garden plant. It grows freely in a cold house, and may prove hardy enough to be grown out-of-doors in summer.

CAMPTOSEMA RUBICUNDUM.

The genus *Camptosema* attracted some attention a few years ago, when *C. grandiflorum* was introduced from Brazil. We grew that plant in a stove at Kew, but it was never satisfactory. A much better garden plant is *C. rubicundum*, also a native of South America, but perfectly happy in a greenhouse along with *Tacsonia van Volxemi*, where it grows along a rafter and produces *Wistaria*-like racemes of bright ruby-red flowers. Fifty years ago it was grown in the Palm-house at Kew, where it formed "a climbing shrub of great length; the older portions of the stem as thick as one's finger, the young leafy branches slender; leaves trifoliate, dark green." It was introduced into cultivation under the name of *Kennedyia splendens*, and was said to be from New Holland. It is a very suitable plant for covering verandahs, &c., in subtropical countries, and also for pillars in warm greenhouses.

OLDENBERGIA ARBUSCULA.

A plant of this remarkable Composite has been in flower for some weeks in the Cape-house at Kew, where it has grown in sixteen years from a seed to an erect, thick-stemmed, unbranched shrub 3 feet high, with felted leaves like those of *Eriobotrya*, but shorter, and a large head of purplish flowers. In some notes of Cape plants published in the *Gardeners' Chronicle* in 1887, I gave the following particulars of this plant:—"It is common on the hills about Grahamstown, being largest and healthiest on the highest and most exposed hills, where there is little soil. From a few seeds brought home by me we have raised plants. Although a free and abundant flowerer, its great heads (often a foot across, and composed of a mass of purple flowers) being plentiful enough, yet it is only rarely that seeds are ripened. I believe this is the first time this plant has been flowered in Europe, although it has been in cultivation before. It is totally unlike any other Composite in cultivation. In Grahamstown it forms a shrub something like *Rhododendron Falconeri*. A figure of it will shortly be published in the *Botanical Magazine*."

KLEINIA GALPINI.

Although introduced from the Transvaal to Kew in 1890, and described in the *Botanical Magazine* in 1892 (t. 7,239), this really attractive-greenhouse plant has not yet received much notice. There is a group of it now in flower in the Cape-house at Kew, where its succulent silvery foliage, bright orange-coloured flower-heads, and compact habit give it quite a distinct and ornamental appearance. It is easily grown, can be propagated from leaf-cuttings, and it flowers freely. In a summer like the present it

would not perhaps be a first-class plant as a bedder, but in a sunny clime I have no doubt that it would form a large, cushion-like mass of silvery foliage, studded over with bright orange flower-heads. It is the handsomest of all the species of *Kleinia*, a genus peculiar to Africa, and although for a time merged in *Senecio*, now again restored by Kew.

ORCHIDS.

The following are specially noteworthy as being in flower at Kew: *Habenaria carnea*, an excep-

HOME CORRESPONDENCE.

HELP REQUIRED.—Will you permit me through your columns to solicit the support and interest of anyone who has influence with the Governors of the Royal Hospital for Incurables, Putney, on behalf of James R. Green, formerly a gardener, but who has been totally paralysed for the last nine years? This case is strongly recommended by Mr. H. Veitch, Mr. Ingram, also by Dr. Wilson of Weybridge, and Captain G. A. Webb. I should be glad to receive any promises of votes. The Gardeners' Royal Benevolent Society, through

LATE-FLOWERING APPLES.—Some years ago I crossed Court Pendu Plat with some pollen from Wyken Pippin, and as a result I got several seedlings, only one of which is of any use. This is a very good-flavoured Apple, similar in appearance to but larger than Wyken Pippin, and is, I think, likely to prove a good late-keeping dessert fruit. It retains in a marked degree the late-blooming qualities of the parent. I have this season sent grafts to one of our leading fruit-tree specialists for trial, and have also worked some myself on the Broad-leaf and Nonsuch Paradise stocks for trial. *W. E. Wallace, The Nurseries, Eaton Bray, Dunstable.*



FIG. 67.—A GROUP OF LATE-FLOWERING HIPPEASTRUMS EXHIBITED AT THE SHREWSBURY SHOW BY CAPTAIN HOLFORD, WESTONBIRT, TETBURY, GR., MR. A. CHAPMAN. (SEE ANTE, P. 146.)

tionally good example; *Bulbophyllum grandiflorum*, with seven large bird-like flowers; *B. mandibulare*, *B. barbigerum*, *B. saltatorium*; *Megaclinium platyrachis*, the most remarkable species of a very peculiar genus; *M. angustum*; *Angraecum Eichlerianum*, with about twenty large white flowers, which have been open about two months and are still fresh; *Dipodium pictum*; *Neobenthamia gracilis*, which has the appearance of a Bamboo, and terminal clusters of white flowers suggestive of *Hoya carnea*; *Stenoglottis longifolia*, a most useful Orchid, easily grown and nearly always in flower, its erect elegant racemes of bright purple flowers being of the kind that florists find valuable for bouquets, &c. The white form of it is also in flower. *W. W.*

its Committee, has rendered valuable help to this candidate. The Benevolent Society deserves all the help we gardeners can give it. I hope to be again able to organise a concert on its behalf, and would be glad of the help of anyone living within reasonable distance of Chertsey. The concert will be early in November. *A. J. Brown, School of Handicrafts, Chertsey.*

POLYGALA VULGARIS, WHITE VARIETY, ETC.—On the 22nd inst., while out botanising, I found a pure white specimen of *Polygala vulgaris*, the Milkwort. Will you kindly inform me whether this is a rarity or not? [It is not common. *Ed.*] I also found pure white specimens of *Ballota nigra* (or perhaps *B. alba*, Benth. and Hook.), and *Prunella vulgaris*. *Rockcist, Penarth, S. Wales.*

— Your correspondent refers to a matter of some moment to British fruit-growers—one, moreover, greatly accentuated in this terribly trying year. Not only are they to be commiserated on their present and periodical losses owing to the vicissitudes of our climate, but also on account of the adverse criticism to which they are so constantly subjected. Anything that can be done to improve the prospects of home growers is well worthy the attention of your correspondent and all well-wishers. My chief object in sending you this communication is to suggest that not only should an attempt be made to increase the varieties of late-flowering Apples and all other hardy fruits, but also of those particular but limited number of varieties which are prone to carry crops year by year, as a very exceptional few really do. *I*

will confine these remarks to Apples, and instance such varieties as the too little known variety Golden Spire, which always crops, and with me is as good this year as in other years. It is a thin-branched, wiry-habited tree, with insignificant flowers, which it seems to set in all weathers. Bismarck again is a fairly free setter, though very different in matter of flowers, foliage, and habit. It is fruiting here this season, notwithstanding Keswick Codlin is quite bare. Then there are Potts' Seedling, Margil, &c., which are likely subjects to work upon in this direction, always bearing in mind that the pollen parent most generally influences intercrosses. *William Earley.*

— Mr. Edward Hobday's suggestion in relation to the desirability of obtaining a race of late-flowering Apples is interesting, although it may not result in securing for Apple bloom immunity from frost. The first thing to ascertain from all who grow Court Pendu Plat is how far the bloom of that variety may have escaped frost and is now producing fruit. In all the gardens I have been into, in not one case has that variety been pointed out to me as specially fruiting. Do not let us forget that the early flowering of Apple-trees, as of all others, this year was largely due to the exceptionally warm weather we had early in the year. But for that fruit-bloom would have been a fortnight later. But I find not a few observers who do not attribute all the present fruitlessness to the frosts. They think that last season's ungenerous weather is largely the cause of comparative bloom weakness or pollen deficiency. If that be so, we cannot have very high hopes for a fruit crop next year. A. D. [Several of our correspondents have referred appreciatively to this variety in their remarks upon the fruit crops. Instances appear on p. 174. Ed.]

— The interesting note of Mr. Edward Hobday has set me looking over my note-book, in which I have from time to time recorded the cropping of those varieties which have come under my observation in various home counties. In addition to seeing these varieties growing, the majority are also on the market. Mr. Gladstone, Juneating (both white and red), and Beauty of Bath; Quarrenden, Duchess, Favourite, Cox's Orange, King of the Pippins, very heavy crop, but hanging badly. Culinary: Keswick Codling (heavy crop), Lord Suffield, Golden Spire, Stirling Castle (heavy crop), Worcester Pearmain, Cellini, Manx Codling, Ecklinville, Blenheim Orange, Prince Albert (Lane), Dumelow's Seedling (Wellington), and Hawthornden (new). Some of these, as recently as August 29, at Worthing, I saw hanging in full crop. At Twickenham (Orleans House) there is a very full crop of Wellingtons, &c. At Finchley, Stirling Castle is particularly heavy. At Brentford, King of the Pippins is extra good. As good Apples come into the market I learn the district from which they are grown. Worcester Pearmain, is good from Canterbury. *Stephen Castle.*

A BIG PRICE FOR POTATOS.—We have sold to a speculating buyer 2 tons of Northern Star for £317, and he has already refused £400 for them. It is turning out all that is claimed for it, being a strong grower, an abundant cropper, of good quality, and free from disease. It is expected that this Potato will make £400 a ton before Christmas. There are plenty of buyers, but few sellers. *Horne & Sons, Cliffe, Rochester.*

SPECIFIC NAMES.—If your correspondent will refer to the note by the Rev. C. Wolley-Dod in the *Gardeners' Chronicle* for August 8 last, he will find that the suppression of the initial capital to a personal adjective in the Kew *Hand-Lists* is not "a specimen of carelessness in compilation or in proof-reading," but was deliberately adopted, and is described by Mr. Wolley-Dod as "logical and consistent." Roylei, Novæ-Zelandiæ, and Moldavica are all substantives, the latter being the name of a suppressed genus. The imputation in a widely-circulated journal of "carelessness" in the preparation of works issued from a public establishment is a serious matter, unless it can be clearly justified by facts; and this, it appears to me, your correspondent has not succeeded in doing. *W. T. Thiselton-Dyer.*

— I may perhaps be allowed to say that Mr. Batson, and not Sir W. Thiselton-Dyer, seems to me to have misunderstood the question at issue. I am sorry if I stated the case obscurely in my first letter to the *Gardeners' Chronicle* on the subject. The innovation to which I called attention, with an expression of entire approval, referred only to adjectives derived from personal names when used as botanical specific names. These have hitherto been written with an initial capital letter; but in the last edition of the Kew *Hand-Lists* they are written with an initial small letter, as geographical adjectives have always been. No change is made in the old rule for writing geographical or personal nouns in specific names. To come to Mr. Batson's examples. In the name *Erigeron Roylei*, Roylei is a noun substantive, and therefore has a capital, as before; but royleana is an adjective, and therefore has now an initial small letter. In the other examples from the Kew *Herbaceous Hand-List*, *Acæna Novæ-Zelandiæ*: Novæ-Zelandiæ is a geographical proper name and a noun substantive, and as such has always been written in specific names with an initial capital; if it had been novæ-zelandicae it would have had an initial small letter. Similar names are *Aster Novæ-Angliæ*, and *A. Novi-Belgii*, which have always been so written. *Acantholimon assyriacum* is consistent with the rule; if the name were *A. Assyriæ* it would have a capital. *Dracocephalum Moldavica* is quite consistent with the old rule. If Mr. Batson will refer to the *Index Kewensis*, he will find that *Moldavica* is an old genus of Tournefort, now absorbed in *Dracocephalum*. Such names have always been written in good botanical works with a capital letter, being used as nouns in apposition. I may further say that, having, for my amusement, looked very carefully through the last edition of the Kew *Herbaceous Hand-List* as soon as published, I am prepared to stand sponsor for it, and to assert that it contains no inconsistencies in the application of the new rule. If Mr. Batson can find any, and will send them to me, I will explain them. A very few typographical errors which I found were sent by me to the Director of Kew, and courteously accepted by him. These are all noted in my own copy of the *Hand-List*. *C. Wolley-Dod, Edge Hall, Malpas.*

Obituary.

MR. WILLIAM HOUSLEY.—We regret to have to announce the death, on the 25th ult., of this gentleman. He had been secretary of the Sheffield Chrysanthemum Society for fourteen years, and was highly respected. At his funeral a large number of representative members of the Sheffield and other Chrysanthemum Societies were present, and a still larger number testified their regard by sending wreaths. Mr. H. Willford, 96, Greenhow Street, Walkley, Sheffield, is acting as secretary for the time being, and all communications relating to the Society should be addressed to him at the above address.

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 1.—Tuesday last being the occasion on which the Royal Horticultural Society's hospitality was extended to the National Dahlia Society, ordinary exhibits at the Drill Hall, Westminster, were not encouraged. The Dahlia show requires the whole of the space on the ground floor, and the parent society therefore could only invite its regular exhibitors to show new plants, flowers, fruit, or vegetables that were submitted for certificates. The Committees sat upstairs in the canteen, and there were displayed most of the exhibits that were not Dahlias.

The ORCHID COMMITTEE recommended two Awards of Merit and one First class Certificate.

The FLORAL COMMITTEE recommended nine Awards of Merit and one First-class Certificate, five of these awards being to new species of *Vitis*, introduced from China by Messrs. J. VEITCH & SONS. No novelty gained an award from the Fruit and Vegetable Committee.

In the afternoon a lecture upon "Judging Cactus

Dahlias" was read by Mr. C. G. WYATT, and upwards of twenty new Fellows were elected to the privileges of the Society.

The Dahlia show, of which a full report is given in another column, was very satisfactory.

Floral Committee.

Present: H. B. May, Esq. (Chairman); and Messrs. R. Dean, C. T. Druery, J. F. McLeod, W. Howe, G. Reuthe, W. Bain, H. Turner, C. E. Pearson, Chas. Jeffries, R. W. Wallace, Rev. F. Page Roberts, R. C. Notcutt, E. H. Jenkins, W. J. James, Geo. Paul, W. Marshall, J. Walker, J. Fraser, E. T. Cook, and John Green.

Messrs. W. WELLS & Co, Earlswood Nurseries, Redhill, showed an attractive group of Chrysanthemum flowers, from plants growing in the open. These included the excellent border varieties Carrie (rich yellow), Pearlle (rose coloured), Champ de Neige (white), Gertie, Goacher's crimson, Blush Beauty, and another mentioned under "Awards."

HOBBIES, LIMITED, Dereham, Norfolk, exhibited several new varieties of Fuchsias, and some pretty little plants of *Iris pallida foliis variegatis*, in which the variegation was particularly distinct and effective.

Mr. J. YOUNG, High Street, Southend, exhibited a scarlet, semi-double-flowered Zonal Pélargonium of dwarf habit named Southern Gem.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, exhibited, in addition to a number of new species of *Vitis*, *Buddleia variabilis Veitchiana*, 9 feet high, with purple inflorescences 1 foot long; and *Calceolaria Burbridgei*, a hybrid that ought to be well-known and grown in every garden. It is in bloom almost all the year round in the greenhouse (No. 4) at Kew, and few can have visited Kew at any season and not have seen it.

Mr. W. C. BULL, Ramsgate, showed a good variety of *Gladiolus Lemouinei*, cream-coloured with red stain and deeper cream-colour on the lower segments.

A species of *Hippeastrum* from South America, shown by Col. TILLOTSON, Beckbury Hall, Shifnal, Salop (gr., Mr. F. G. Thomas), has greenish flowers, in which the three outer segments incurve until the pointed tips meet, and the inner three segments reflex.

Awards.

Chrysanthemum "The Champion."—A border variety of golden-yellow colour, flowers 4 inches across; florets, $\frac{1}{2}$ of an inch wide, slightly incurving at the tips. Shown by Messrs. W. WELLS & Co, Earlswood, Surrey (Award of Merit).

Chrysanthemum maximum variety "King Edward."—This is an immense-flowered variety of this well known border flower; the blooms are $5\frac{1}{2}$ inches across. Shown by Mr. W. ANGUS, Penicuik Gardens, N.B. (Award of Merit).

Gladiolus gandavensis "Van Dael."—A large, bright rose-coloured variety, with crimson markings, and a central mark of paint-like white on each segment. Shown by Messrs. WALLACE & Co., Kilnfield Gardens, Colchester (Award of Merit).

Hidalgoo Wercklei.—This plant was figured and described in the *Gardeners' Chronicle* for August 4, 1900, p. 83. It is known as the Climbing Dahlia, because its single scarlet flowers are like those of a single Dahlia. Most suitable for training on the rafters of a greenhouse, as is done with such good effect at Kew. Shown by Sir TREVOR LAWRENCE, Bart. (gr., Mr. Bain) (Award of Merit).

Tamarix hispida æstivalis.—A variety with rich rose-coloured inflorescence; very effective. Shown by Messrs. R. VEITCH & SONS, Exeter (Award of Merit).

Vitis armata.—In general character something like *V. Coignetiae*. Leaves about 7 inches across with toothed margins, colour olive-green. Stems and petioles of leaf reddish-brown, rather thickly studded with short fleshy spines. From Central China. Shown by Messrs. JAS. VEITCH & SONS (Award of Merit).

Vitis flexuosa Wilsoni.—A slender-growing variety with ovate, acuminate leaves $2\frac{1}{2}$ to 3 inches across. Shown by Messrs. JAS. VEITCH & SONS (Award of Merit).

Vitis megaphylla.—This is a species with much compounded leaves, reminding one more of a *Kœlreuteria* than of a *Vine*. The green leaf with reddish petiole measures about 16 inches long. From Central China. Shown by Messrs. JAS. VEITCH & SONS (Award of Merit).

Vitis sinensis.—A species with reddish-purple, lobed leaves covered with soft hairs on the under surface. Shown by Messrs. JAS. VEITCH & SONS (Award of Merit).

Vitis Thomsoni.—Of rather slender habit, and having digitate, rather reddish leaves. Described by the late

Professor Lawson in Hook. . *Fl. Brit. Ind.* I. 657. Shown by Messrs. JAS. VEITCH & SONS (First class Certificate).

Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair; and Messrs. Jas. O'Brien (Hon. Sec.), W. H. White, W. Boxall, J. Wilson Potter, E. Hill, J. W. Odell, F. Sander, W. Cobb, and De B. Crawshaw.

Messrs. CHARLES WORTH & Co., Heaton, Bradford, were awarded a Silver Flora Medal for a group composed of *Sophro-Lælia* × *Gratrixia* *magnifica* (L. tenebrosa × *S. grandiflora*), a fine flower, shaped much like *L. tenebrosa*, of a reddish tint, veined with claret red; *Cattleya* × Mrs. Pitt "Heaton variety," with rose sepals and petals, and fine orange disc to the lip; C. × Lord Rothschild "Heaton variety," *Lælio-Cattleya* × Admiral Dawey, L.-C. × Donna Roma, L.-C. × elegans, L.-C. × Gottoiana, L.-C. × Issy, *Cattleya* × Germania, C. × Suavior *superba*, C. × Niobe, *Rodriguezia Claesiana*, &c.

Messrs. SANDER & SONS, St. Albans, were awarded a Silver Banksian Medal for a good group, in which were *Cattleya* × *Exquisita*, a charming new hybrid (see Awards), *Lælio-Cattleya* × *Britannia* (L.-C. × *Canhamiana* × C. Warscewiczii), a large white flower tinted with rose, the front of the labellum being rose-purple, the disc sulphur-yellow; many varieties of L.-C. × *Bletchleyensis*, and L.-C. × *Martinetti*; *Cattleya* × Mrs. J. W. Whiteley, *Cypripedium* × *Transvaal*, and other *Cypripediums*; *Miltonia Roezlii*, *M. spectabilis*, and *M. vexillaria*; *Odontoglossum Kramerii*, O. × *lepidum*, &c.

Messrs. B. S. WILLIAMS & SONS, Holloway, showed a group made up of a good collection of specimens of fifteen kinds of hybrid *Cypripediums*, including C. × *Lebaudyanus*, C. × *Thorntoni*, and C. × *Harrisianum* *vivicans*; also *Lælia crispa*, *Coeogyne Massangeana*, *Vanda tricolor* "Glen variety," and *V. tricolor superba*.

JEREMIAH COLMAN, Esq., Gatton Park (gr., Mr. W. P. Bound), showed *Lælio-Cattleya* × Henry Greenwood "Gatton Park variety," a grand form, the largest yet seen, and of fine colour; L.-C. × *Bletchleyensis gloriosa*, a very dark variety with bronzy-yellow sepals and petals, changing to pale rose towards the margin, and with dark purple lip; and a strong plant of *Odontoglossum bictoniense* with three spikes.

WALTER COBB, Esq., Tunbridge Wells (gr., Mr. J. Howes), showed *Coryanthes Cobbii*, an unspotted form of *C. maculata*; sepals and petals yellowish-white, lip tinged with orange colour.

Messrs. STANLEY ASHTON & Co., Southgate, showed *Cattleya* × *Crashleyi* (*granulosa* × *Loddigesii*?), a nearly ally of C. × Mrs. Mary Gratrix.

J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), showed a fine plant of the curious *Catasetum Russellianum*, with a strong spike of whitish, green-lined flowers.

Awards.

FIRST-CLASS CERTIFICATES.

Cattleya × *Pittiana*, "J. Wilson Potter's variety" (*granulosa* Schofieldiana × *Dowiana aurea*).—From J. WILSON POTTER, Esq., Elmwood, Croydon (gr., Mr. W. H. Young); one of the largest and best of the *C. granulosa* hybrids, and in which the typical *C. granulosa* form of flower is very prominent, although enlarged, and much beautified. The large sepals and petals were of a bronzy-yellow hue tinted with rose; the labellum marked with orange in the centre, the front being purplish ruby-red, the fimbriated margin bluish-white.

AWARD OF MERIT.

Cattleya × *Tankerville* (bicolor × *Rei*).—From Messrs. STANLEY, ASHTON & CO., Southgate. Sepals and petals cream-white tinged with primrose, the lip, with the very small side lobes, and long, narrow isthmus, as in all hybrids of *C. bicolor*, bright purple.

Cattleya × *Exquisita* (*Luteola Holfordi* × *Parthenia* "Prince of Wales").—From Messrs. SANDER & SONS, St. Albans. A charming gem of a fragrant, white-flowered Orchid, with the neat habit and profuse blooming qualities of the yellow *C. luteola*. Flowers clear white, in shape resembling those of *Cattleya Mossiae*, though not so large. Labellum with a rich yellow disc, and bright purple marbling in front. The parentage is very interesting, for whereas it is from *C. luteola*, one of the most distinct of species, on the one side, the agent on the other was produced by *C. × calummata* (fimbriata) × *Mossiae Wageri*, and from the latter the form of the flower descends. The neat little plant shown had two spikes of three and two flowers respectively.

Fruit and Vegetable Committee.

Present: George Bunyard, Esq., V.M.H. (Chairman), and Messrs. H. Balderson, H. Esling, O. Thomas, F. Q. Lane, G. Reynolds, J. Willard, H. J. Wright, J. Gibson, A. Dean, W. Fyfe, G. Keli, J. Jaques, H. Markham, W. Poupert, S. Mortimer, J. Cheal, and Rev. W. Wilks.

Prior to the inspection of exhibits it was resolved that all the awards recommended by the members of the Fruit Committee at Chiswick on August 24, a full quorum not then being present, be agreed to. These recommendations were mentioned in our report last week.

The next business was the reading of a very interesting report from Mr. Jaques, who, at the request of the Committee at the preceding meeting, undertook to be present and inspect, on behalf of the Royal Horticultural Society, a method of packing home-grown fruit for transmission to the tropics by Mr. A. F. Turnbull, of Mark Lane, City. It was agreed to ask that, to secure an important opinion as to the condition of the fruit on arrival, Mr. Turnbull be asked to pack a similar box, using his patent packing material (a white powder), and that it be sent to Sir Daniel Morris, at Barbados, whose report would naturally secure the fullest confidence. Mr. Jacques was cordially thanked by the Committee, and his report will in due course be published in the Society's Journal.

General exhibits were not numerous; Mr. Clarke, gr. to Lady PLOWDEN, Aston Rowant Hall, Oxon, staged a collection, including good Dymond Peaches; Humboldt, Lord Napier, Pine-apple; Stanwick, Elruge, and Newton Nectarines; Reine Claude de Bavay and Quesche St. Martin Plums, and fine Lemons (Silver Banksian Medal).

Mr. W. Howe, gr. to Lady TATE, Streatham, had a box of fine Bourjassotte Grise Figs (Cultural Commendation).

Mr. W. FYFE, The Gardens, Lockinge, sent a handsome early white Apple, striped red, named Miller's Seedling. It seems to be known in Sussex as "The Miller." The fruits were hardly ripe, but when so are pleasant eating.

Messrs. GOFF & Co, Floral Nurseries, Littlehampton, had a large green-flesh Melon. Mr. Clarke, gr. to Lady PLOWDEN, sent a scarlet-flesh variety named Aston Rowant; and Messrs. DOBBIE & Co., Rothesay, had a selected form of the Cantaloupe Melon, round and much sutured. No awards were made.

Mr. B. Wadde, gr. to Lord MIDDLETON, Birdsall, Yorks, sent two bunches of white Grapes, one thinned, the other not. The variety was supposed to be the product of crossing the Strawberry-Grape with Ferdinand De Lesseps Grape. The skins were very tough and the flesh acid.

Messrs. RIVERS & SONS, Sawbridgeworth, had a few Peaches to show effects of inarching. They were referred to the Scientific Committee.

Mr. R. MAHER, Yattenden Court, Newbury, showed Vegetable Marrow named Codlin's Cream; and Mr. P. CANTLY BRIGG had a dish of over-ripe Tomatos.

The Lecture.

JUDGING CACTUS DAHLIAS.

Before calling upon Mr. Wyatt to read a paper upon "Judging Cactus Dahlias," Mr. EDWARD MAWLEY, who presided, said that there had been considerable indefiniteness in regard to the points that constituted a good exhibition flower of this type, and it was arranged early in the year that Mr. Wyatt should introduce the subject, so that there might be brought about a greater uniformity in their aims, and that there might be a greater degree of certainty in regard to the type of flower that should gain most points at exhibitions.

Mr. WYATT explained the need that existed for introducing some rule in regard to the judging of these flowers, and said that an exhibit of Cactus Dahlias might gain points for each of the following qualities—form, size, colour, and effectiveness in the setting-up of exhibit. In a Cactus Dahlia it was important that the florets should be long and narrow, and folded back at the edges. It should not have a very large disc, the centre should be closed, and there should be no flat florets. A good flower should show perfectly the peculiar characteristics of the variety, whether in form or colour. Mr. Wyatt recommended that the four qualities already enumerated should be valued as follows, making in all a maximum of ten points:—

- Form, 4 points.
- Size, 3 points.
- Colour, 2 points.
- Setting-up, 1 point.

The maximum number of points for size should only be given when the flower was quite free from coarseness; the colour should be clean, clear, and the flower

free from blemish or injury; paleness of colour due to overshadowing or other cause should be judged to be a defect. In judging a bunch of one variety the bunch should be judged as one flower only, as the "trebles" are judged at the Rose exhibitions.

The Rev. W. WILKS, M.A., preferred to rank "colour" next to "form," and before "size." He considered that "form" was the principal point in all flowers; but that as taste in regard to correct form was constantly changing, it was not wise to be too definite in defining the qualities of form in accordance with the ideas of the moment in respect to what the form ought to be. Mr. Wilks regarded mere size in all flowers, fruits, and vegetables as "a despicable thing." He thought they should give to "size" by itself as little consideration as it was possible to persuade professional growers to agree to. He was confident that amateurs would prefer to give it no consideration at all. He agreed there should be a point or more for effective "setting-up" of vases or groups, but single flowers of new varieties submitted for certificate should be judged as flowers only, as flowers that would be "set up" in the future if they were sufficiently good to be recommended for the purpose.

Mr. STREDWICK, who is well known as a successful raiser of Dahlias, was inclined to favour the small Dahlia. If he had to please himself only he would never issue a Cactus Dahlia more than 6 inches in diameter, but as a raiser he was bound to consider the opinions held generally by exhibitors and cultivators. He was strongly in favour of awarding points for effective "setting-up." If healthy plants were put into maiden loam they would generally give good flowers, even if little attention were given them, but they cannot stage themselves at exhibitions. He had seen at that show flowers that were perfectly grown, which result he should credit very largely to Nature, and they were staged shamefully, for which he was obliged to credit the exhibitor. Mr. MARSHALL was offering a prize at the show to be held shortly at Earl's Court, with a view of encouraging the production of a race of Pompon Cactus flowers, and if this succeeded his hearers might depend that Cactus varieties measuring about 2½ inches in diameter would be found the most beautiful flowers the Cactus Dahlia was capable of producing.

Mr. FREDERICK TRESEDER (Cardiff) said they were not discussing the Dahlia merely as a flower, but as an exhibition flower. He thought that other things being equal, a flower that possessed unusual size without suffering in refinement should win in a competitive exhibition. He was also of opinion that the National Dahlia Society should not attempt to define what is a Cactus Dahlia and what is not. Tastes differed, and the differences should be respected.

An amateur supported Mr. Treseder's views, saying the cultivator who secures "size" but retains refinement has done most; and contended that flower-shows would cease to be attractive to the public were "size" ignored, for the "British public" expected and demanded "size" in exhibition flowers as in everything else.

Another member supported Mr. Treseder, and yet another pleaded that "size" need not be feared so long as refinement was insisted upon. Some varieties—for instance, Mrs. Crowe—even when 7½ inches across, was never coarse; and a large flower of equal refinement must be given preference.

Mr. J. F. HUDSON protested against the false idea of "size" that had been preached. The variety Mrs. Crowe might possess refinement even if it was 7 or 8 inches across; but the question was this—was it so beautiful then as it would be if it were but 6 inches? He thought not. The Cactus Dahlia, thought Mr. Hudson, could only reach its ideal of beauty when 6 inches or less.

The Chairman, in summing up, thought they could not afford to ignore size altogether; but mere size would never do much harm if judges insisted upon thinness of florets and narrow petals.

Subsequently Mr. Wyatt said that he placed "size" before "colour," because he regarded the latter quality as the free gift of Nature, and the former as the result of the hard work of the cultivator.

BRIGHTON AND SUSSEX HORTICULTURAL.

AUGUST 25, 26.—This exhibition was held on the above dates in the Dome, Corn Exchange, in an annexe of the Dome, and in a large marquee in the grounds, and it is the twelfth of the Society's annual exhibitions. Alike with regard to the number of exhibitors and of entries, it was the most successful exhibition the Society had as

yet held. There were 114 exhibitors as against 65 last year, and 485 entries as against 335. The area of the Dome and Corn Exchange is very large, and there was much room unoccupied by exhibits. The Fern groups in the marquee were very pretty; Roses numbered eighteen entries; hardy herbaceous cut blooms were abundantly and well shown; Apples of good quality did not convey the idea that the crop is this year a bad one.

The competition in the Dahlia and Gladiolus Classes was weak. The large group set up by Messrs. BALCHIN & SONS was an admirable example of skilful arrangement of plants in pots.

Grapes of good quality, Peaches, Nectarines, Plums, Apples, and Melons were numerous, and generally of very good quality. Vegetables and Potatoes, especially the latter, were very good.

In the Corn Exchange there were fifteen small tables on which table decorations were arranged; these were, as is usual, of various degrees of elegance and appropriateness; the prizes awarded being, 1st, Mrs. F. LINDSAY, The Laurels, Hailsham, the material used being Gypsophila, Bougainvillea, Anemone japonica in variety, Sweet Peas, Maidenhair Fern, Grass haulme, &c.; 2nd, Mrs. COLEMAN, Ferring, near Worthing, with a device made of Montbretia, Ferns, Gypsophylla, &c.; 3rd, Mrs. A. COOPER, Broadwater, Worthing, a device in Carnations in white and pink flowered varieties.

A good feature in showy Carnations consisted of a table 5 feet by 5 feet filled with Carnations in great variety, the centre raised about 2 feet above the flowers on the rest of the table, the whole being interspersed with Adiantums, Asparagus, Fittonia, Myrsiphyllum, Tradescantia, &c. The exhibitor was Miss SHIFFNER, Coombe Place, Lewes. There were two other tables of the same character.

Table Plants to the number of six were shown in response to offers of special prizes, and consisted of *Panax variegatum*, *Codiaeum*, *Kentia*, *Dracaena*, &c.: 1st, Mr. GARNETT; 2nd, Mr. W. E. ANDERSON.

Baskets of Flowers were few, and consisted of two only that showed much taste in arrangement or goodness of material, viz., that of Miss YELLAND and Mr. H. GARNETT. Of stove and greenhouse cut flowers there were our boxes of twelve bunches each. That which took the 1st prize consisted of *Rochea falcata*, *Tecoma jasminoides*, *Cattleya gigas*, *C. Gaskelliana*, *Dipladenia amabilis*, *Gloriosa superba*, &c.

Bathroom bouquets were well shown by Mr. A. W. TROSELL, Tonbridge, Kent, and Miss A. F. HARWOOD, Colchester, the former consisting of *Cattleya*, blue Sweet Peas, *Fraxinea ramosa*, and greenery of a light description; and the latter of *W. Allan Richardson* Rose, *Hypericum calycinum*, *Montbretia*, and a reddish orange coloured Cactus Dahlia—a telling study in orange and yellow. Bridal bouquets were also shown, all very pretty and tastefully made.

Cactus Dahlias were shown in numbers. The 1st prize (specially offered by Messrs. J. Cheal & Sons) was taken by PERCY W. TULLOCH, Esq., Sterndale, New Church Road, Hove. Show Dahlias in these classes were but few.

The Rotunda was furnished with a semicircle of tabling, on which were displayed plants of tuberous Begonias in pots, the winner of the 1st prize for which was Mr. J. BACKSHALL, gr. to J. LAWSON, Esq., Highlands, Hassocks; and of the 2nd prize, Mr. G. NORMAN, gr. to P. H. BAYER, Esq., Hatch Beauchamp, Withdean.

A quantity of hardy herbaceous perennials, as cut flowers, of fine quality, such as *Lilies*, *Montbretia*, *Anemone japonica*, *Tritomas*, *Helianthus*, *Chelone barbata*, *Gladiolus*, &c., were shown by Mr. J. DAVIS, gr. to Major THURLOW, Buckham Hill House, Uckfield, who was 1st in a class for eighteen distinct species of hardy perennial or bulbous flowers in bunches.

DAHLIAS: COMPETITIVE CLASSES.

Gardeners and Amateurs.—Pompon Dahlias: 1st for six varieties, Mr. J. HARPER, gr. to — TUCKER, Esq., Vernon Lodge, Preston.

Six Cactus varieties.—1st, PERCY W. TULLOCH, Esq., Hove, with *Phineas*, scarlet; Mrs. Ed. Mawley, primrose-yellow; Gloria, rosy-purple; and J. H. JACKSON darkest claret, as the best blooms.

Open Classes.—The best dozen Cactus varieties came from Messrs. J. STREDWICK & SONS, Silverhall Park, St. Leonards, very fine being the varieties Comet mauve; Florence Stredwick, cream; Columbia, scarlet and white; Osprey, yellow with scarlet stripes; Oliver Twist, scarlet; and Falcon, rosy-purple.

Messrs. J. CHEAL & SONS were 1st for single-flowered varieties, and also for a dozen Pompons.

Show varieties were few, and in the class for twenty-four, distinct, Messrs. CHEAL & SONS took the 1st prize, the 2nd prize being taken by Mr. J. BROWN, 120, High Street, Worthing.

A large marquee erected in the grounds held a quantity of Ferns, Palms, and foliage plants, as well as groups set up for effect or to indicate methods of arrangement with Ferns and mixed flowering and foliage plants. In the former Mr. J. ADAMS, gr. to the Rev. Sir G. C. SHIFFNER, Bart., Coombe Place, Hamsey, Lewes, was 1st, taking the Corporation Challenge Cup and a Silver Medal with Adiantum of diverse

species, *Pteris cretica alba* and others, and species of a weeping habit.

Coleus.—The 1st prize was taken by six pyramids of distinct varieties, shown by Mr. G. SIMS, gr. to E. A. WALLIS, Esq., Sunnyside, Upper Lewes Road, Brighton.

Fuchsias, Six specimens.—1st, Mr. H. HEAD, The Drive Nursery, Hove, with bushes 3 to 4 feet in height, finely bloomed.

Caladiums, Six specimens.—1st, Messrs. W. MILES & CO., Church Road, Hove, with plants of moderate size, but fresh looking. This exhibitor was also 1st for *Fuchsias*, to the number of six, these being in bush form and under 4 feet in height.

Zonal Pelargoniums.—For six specimens, various, 1st, Mr. Jas. ROGERS, gr. to Mr. C. E. F. STANFORD, with well-bloomed plants from 3 to 4 feet in diameter.

GARDENERS AND AMATEURS.

Plant Groups not exceeding 13 by 7 feet.—There were many competitors in this class of miscellaneous flowers and foliage plants, and the exhibits were of varying degrees of excellence. 1st, Mr. W. E. ANDERSON, gr. to B. PARISH, Esq., Melodia, Preston Park. This group consisted of *Lilies*, *Campanula pyramidalis* Vallotta, *Gloxinias*, *Celosia pyramidalis*, small Palms, *Tuberose*, *Codiazums*, &c. disposed on a carpet of *Adiantums* and *Coleus* with a white-and-green leaf.

Groups 20 by 9 feet, Open.—In this competition, Mr. G. MILES, Victoria Nursery, Dyke Road, was 1st, taking a handsome Silver Bowl and a Silver Medal for a good rich group pleasingly arranged. The background consisted of a very dark-flowered *Bougainvillea glabra*, *Lilium speciosum album*, *Codiaeum*, *Tuberose*; and in the front of this there were thinly-arranged *Oncidiums*, *Eucharis*, *Carnations*, small *Caladiums*, *Begonias*, and under all a carpeting of *Maidenhair*. 2nd, Mr. JOHN HARPER, who had a showy group, but in which *Lilies* were too lavishly employed.

Palms were shown by Mr. H. GARNETT, 1st; and Messrs. MILES & Co., 2nd.

FRUIT.

Collection of fruit, eight dishes distinct, Pines excluded.—1st, Mr. J. GORE, Fruit Grower, Polegate, with three middling bunches of Muscat of Alexandria, two of them lacking in colour; three bunches of Gros Colmar, massive and of good colour; fine Williams' Bon Chretien Pears, McIndoe's Best of All Melon, Milton Nectarine (very fine), Apple Lady Sudeley, Peach Dr. Hogg, and Figs Brown Turkey. The 2nd prize went to Mr. EDWIN NEAL, gr. to Mrs. NIX, Tilgate, Crawley, who had massive bunches of Black Hamburg Grapes, fine Royal George Peaches, and Pineapple Nectarine. 3rd, Mr. CHAS. EARL, gr. to O. E. D'AVIGOR GOLDSMITH, Esq., Somerhill, Tonbridge, whose Grapes, Peaches, and Apples were a creditable production.

For a collection of nine bunches in three varieties of Grapes.—1st, Mr. G. GORE, Polegate, for three fine bunches of Gradiška, white; three massive bunches of Gros Maroc, and for three of Muscat of Alexandria, of fair size but lacking in colour. 2nd, Mr. W. TAYLOR, gr. to C. BAYER, Esq., Tewkesbury Lodge, Forest Hill, S.E., with Gros Maroc, big-berried and massive bunches; beautifully finished *Chasselas Napoleon*, and capital *Madresfield Court*. Mr. J. SEYMOUR, gr. to T. W. CROOK, Esq., Seldenville Vineries, Worthing, was 3rd, his Black Alicante and Muscat of Alexandria being very superior examples.

Muscat of Alexandria, three bunches of this variety.—1st, Mr. J. SEYMOUR, with fine, regularly shaped, well ripened bunches; 2nd, Mr. C. H. JONES (gr., Ote Hall, Wivelsfield); 3rd, Mr. ED. NEAL, with long, slender, but heavily shouldered bunches.

Three bunches of Black Hamburg.—1st, Mr. CHAS. NEAL, Tonbridge, with bunches perfect in shape, colour, and berry; 2nd, Mr. ED. NEAL, with large straggling bunches of great weight; 3rd, Mr. KEMP, with fine large bunches which had been carelessly handled or packed, a fact that probably accounted for their being placed 3rd.

Peaches and Nectarines were rather extensively shown, and in numerous instances the fruit was exceedingly fine in size and colour.

Melons numbered five exhibits of two fruits each, and eleven of one fruit each.

The Early Dessert Apples.—Four dishes of Worcester Pearmain, Kerry Pippin, and Lady Sudeley, which obtained the 1st prize, were shown by Mr. F. W. THOMAS, Wannock Garden, Polegate.

Kitchen Apples were well shown by several exhibitors, especially by Mr. C. NEAL, who was 1st; 2nd, Mr. F. W. THOMAS, Wannock Gardens, who had fine Peasgood's Nonsuch, The Queen, &c.

The exhibit of Plums consisted of twenty-four dishes in variety, good, well-coloured fruits.

VEGETABLES.

These were plentiful and good, Onions, Cauliflowers, Celery, Leeks, Peas, and Beans being of especially good quality, owing to the dripping nature of the summer; Potatoes were free from scab, nearly all were kidney-shaped.

The best collection of Potatoes was shown by Mr. W. BROWN, Police Station, Rottingdean.

For a collection of vegetables, Mr. W. MANTON, gr. to the Rev. R. MASHITER, was 1st, the Best-of-All and Sutton's A1 Runner Beans, Snowdrop Potatoes, Solid White Celery, Ailsa Craig Onion, and Autumn Giant Cauliflower being fine. The 2nd prize was taken by Mr. M. TOURLE, gr. to F. BARCHARD, Esq., Horstead Place, Uckfield, who showed Runner Beans Elephant, Model Telephone Peas, and Snowball Potatoes, in very fine condition.

The exhibitor of the best six kinds was Mr. A. SIMMONS, gr. to Sir FRANCIS OSBORNE, Bart., The Grange, Framfield, who had fine Alderman Peas, Sensation Potatoes, and Tomato Duke of York.

TRADE EXHIBITS.

MESSRS. JOHN FREED & SON, West Norwood, exhibited hardy cut flowers of good quality and in much variety; Sweet Peas, *Gloxinias*, double and single-flowered *Begonias*, as cut blooms. Not for competition.

MESSRS. J. CHEAL & SONS, Crawley, showed fruit trees in pots, hardy perennials as cut flowers, Dahlias, miscellaneous stove and greenhouse plants, *Phloxes*, *Tritomas*, *Heliothis scabra*, *Helianthus*, *Buddleia variabilis*, &c. Not for competition.

MESSRS. BALCHIN & SONS, Brighton and Hove, showed a quantity of trees and shrubs as cut shoots; many have yellow or variegated foliage useful for planters. They also exhibited an elaborate group set up with much good taste at one end of the Corn Exchange. It was practically of a horse-shoe shape, and the plants employed consisted chiefly of *Lilium lancifolium* album arranged at the heels of the shoe and surrounded by dwarf plants of *Caladiums*, and having a vase in the centre holding a variegated *Pandanus*. Behind each of these groups stood a Palm 15 feet high surrounded by a ring of finely-coloured *Codiaeums*. The middle area was filled with a mixture of *Lilies*; *Odontoglossums*, *Crinum*, *Saxifraga sarmentosa* variegata, *Caladiums*, *Thunia alba*, *Dracaena Sanderiana*, *Mesospidium*, &c.

Mrs. BANGER, Southwick, Brighton, exhibited a rustic arrangement in cork, decorated, as we think very incongruously, with gaudy Sunflowers, with Hollyhocks, *Campanula pyramidalis*, *Delphiniums*; while the foreground consisted of *Saxifrages*, *Auriculas*, *Pansies*, &c. Not for competition.

There were exhibits of annuals, tender and hardy; of Sweet Peas in much variety.

T. B. WARE, Ltd., Feltham, exhibited a large showy group of hardy herbaceous perennials.

Mr. H. SKINNER, gr. to J. DUNK, Esq., showed, not for competition, a group of leaf *Begonias* in variety.

A Silver Medal was awarded to Mr. G. W. PIPER, Uckfield, for a comprehensive exhibit of Tea and Tea Hybrid Roses. The flowers had been taken at precisely the right moment, and they remained fresh-looking and charming. Not for competition.

NATIONAL DAHLIA.

"CACTUS TYPE LARGELY DOMINATES."

SEPTEMBER 1, 2.—Forty-five years ago there was held in St. James's Hall, Piccadilly, an exhibition of Dahlias, from which may be said to have sprung the National Dahlia Society. The show of 1858 was wholly of the show and fancy varieties; in the class for a device a few blooms of pompon varieties and also of dwarf bedding sorts might have been seen. There were but few pompons at that time, and they mainly of tall growth; it was a few years later that the late Mr. C. TURNER took the pompon type in hand, and greatly improved and extended the varieties. There were no Cactus Dahlias, and the single form was practically unknown. The introduction and improvement of the Cactus type have changed the whole aspect of the show; this type now largely dominates, and new forms are being numerous produced, showing much variation in colour; and while the bedding varieties, once so much grown, have, to a great extent, ceased to exist, the pompon varieties have greatly increased in numbers and popularity whilst the single Dahlias are less popular than they were a few years ago.

The present exhibition was a remarkably good one for the season, and there was a larger number of entries than was at one time anticipated. For lack of sunshine and warmth, a certain amount of roughness was discernible in the show and fancy varieties; the Cactus type was not free from it, though some excellent blooms were staged; even the pompons and singles lacked the fine finish seen in drier and warmer seasons. The whole of the Drill Hall was required to accommodate the exhibits. The miscellaneous collections, some of which were very imposing, were ranged round the sides of the Hall. There was a fairly good attendance; the atmosphere of the Drill Hall became very close during the afternoon.

Show and Fancy Dahlias.—There was little evidence of decline in the interest attaching to this section. In the large class for forty-eight varieties three collections only were staged, though space was reserved for two more entries. Messrs. KEYNES, WILLIAMS & CO., Salisbury, were placed 1st, having for the season good blooms of Brilliant, George Sanger, new of the present year; Darkest-of-All, nearly black; Mrs. Evry, Gloire

de Lyon, Henry Clark, new of 1903; J. N. Keynes, Arthur Rawlings, W. Keith, Watchman, Mrs. McKenzie, John Walker, Henrietta, Mrs. Saunders, J. Chamberlain, J. T. West, John Hickling, Dr. Keynes, Virginal, Gracchus, R. T. Rawlings, Mrs. Langtry, &c. Mr. C. TURNER Royal Nursery, Slough, was 2nd; Mr. S. MORTIMER, Swiss Nursery, Farnham, 3rd.

With thirty-six varieties Mr. W. TRESEDER, nurseryman, Cardiff, was 1st, having good blooms of John Walker, Mrs. Saunders, Mrs. Dodds, Henry Walton, Imperial, Sunset, A. Ocock, Mrs. Langtry, Goldfinder, Comedian, John Hickling, Diadem, Mrs. Slack, Majestic, Virginal, Duke of Fife, Duchess of Albany, Duchess of York, Mrs. Gladstone, Prince Henry, &c. Mr. S. MORTIMER was 2nd; his leading blooms were Virginal, Duchess of Albany, S. Mortimer, Watchman, Lilac Queen, and Reporter. Mr. JOHN WALKER, nurseryman, Thame, 3rd.

With twenty-four varieties, Mr. F. M. SEALE, Vine Nursery, Sevenoaks, was 1st with good blooms of Peacock, J. B. Service, Mrs. Saunders, Duchess of York, Dr. Keynes, Mrs. Gladstone, W. Keith, Minnie Hobbs, James Cocker, W. Powell, Frank Pearce, Matthew Campbell, &c. Messrs. J. CRAY & SON, nurserymen, Frome, were 2nd, also with some good blooms.

With eighteen blooms, Mr. GEORGE HUMPHRIES, Kingston Langley, Chippenhams, was 1st. He had in good character James Cocker, Rev. J. B. M. Camm, J. T. Saltmarsh, Colonel, Miss Cannell, Arthur Rawlings, R. T. Rawlings, Mrs. Langtry, Mrs. Gladstone, John Walker, Ethel Britton, &c. Messrs. J. CRAY & SON were 2nd; and Mr. SEALE, 3rd.

With twelve blooms, Mr. J. R. TRANTER, Henley-on-Thames, took the 1st prize; among his blooms was a promising seedling. Messrs. J. CHEAL & SON, Nurserymen, Crawley, were 2nd.

Cactus Dahlias.—One of the principal points of interest in the show was the Open class for eighteen bunches of Cactus Dahlias in bunches of six blooms, the 1st prize carrying with it the holding for one year of a valuable Challenge Cup. The judging of this class was extremely difficult, two or three at least of the stands closely approaching each other in point of merit. Messrs. J. STREDWICK & SON, Dahlia specialists, St. Leonards, were placed 1st, having in their eighteen all but three varieties of their own raising; their new varieties were Mrs. J. W. Wilkinson, Merlin, Sirius, Pearl, Reliance, Amelia Roberts, Improved Magnificent, Oliver Twist, Falcon, H. L. Brousson, Osprey, Ella Kraemar, Florence M. Stredwick, Comet, Rainbow, and Ivanhoe. Some of these are described under the head of seedlings. Among the foregoing were some charming tints of pink and rose, and there were valuable additions to the striped section; the two other varieties were Columbia and Mrs. Winstanley. A Silver Medal was awarded to the variety H. L. Brousson, as the best Cactus Dahlia in the open classes. This firm has now taken for a few years past a decided lead as raisers of Cactus Dahlias; Messrs. J. BURRELL & CO., Nurserymen, were a close 2nd, very little indeed dividing the two stands; nearly all the varieties were raised by the exhibitors. Messrs. J. CHEAL & SON, were 3rd.

With twelve bunches of six blooms, Mr. JOHN WALKER, Nurseryman, Thame, was 1st, having excellent examples of Phineas, Mrs. Mawley, Richard Dean, Ianthe, Raymond Parkes, Alpha, Lord Roberts, Uncle Tom, J. W. Fyfe, Eva, H. J. Jones, and Crimson Gem; Mr. S. MORTIMER came next; and Mr. C. TURNER was 3rd.

With forty-eight cut blooms shown on boards, there was a very close competition, the difference in pointing the blooms between the first three being very slight. Messrs. J. BURRELL & CO. were placed 1st, and out of the four dozen blooms they had, all of very fine quality, forty at least were of their own raising; chief among them were J. W. Wilkinson, Mrs. E. Mawley, Annabel, Chameleon, Dulcis, Mrs. De Luca, Laurette, Blanche, Rosine, Minnie West, H. T. Robertson, Trojan, Ella, Ida, Zoe, J. H. Jackson, Alice Decima, and Premier. Messrs. KEYNES & CO. were 2nd, and Messrs. J. STREDWICK & SON, 3rd.

There were eight boards of twenty-four blooms of Cactus. Mr. W. BAXTER, Nurseryman, Woking, was 1st with finely developed blooms of Ida, Ianthe, Lyric, Gabriel, J. H. Jackson, Mrs. Seagrave, J. W. Fife, Mrs. H. J. Jones, Ringdove, Lord Roberts, Etna, Mrs. J. J. Crowe, &c.; Mr. S. MORTIMER came 2nd; he had in very fine character Clara G. Stredwick, Gabriel, Mabel Tullock, Queen Alexandra, J. F. Hudson, Mrs. E. Mawley, Eva Vesuvius, &c.; 3rd, Mr. W. TRESEDER.

Cactus Dahlias in Vases.—With twelve varieties, six blooms of each, each bunch in a vase arranged with foliage; Messrs. J. CHEAL & SONS, were placed 1st. The flowers were set up in a very pleasing manner, with charming foliage used sparingly but appropriately. The leading varieties were Mary Service, Mrs. Mawley, W. Jowett, Clara G. Stredwick, Vesta, Floradora, Lyric, Lord Roberts, H. J. Jones, &c. Mr. F. M. SEALE was 2nd, and Messrs. KEYNES & CO., 3rd; good blooms were staged, but they were too much hidden by foliage. These vases made a good feature.

Pompon Dahlias.—These made, as they always do, a very pleasing feature, and it was gratifying to note that the judges gave the preference to small, compact, even-sized blooms. Mr. C. TURNER was placed 1st with an almost perfect collection, the varieties Bacchus,

Orpheus, Sylvia (new, pale ground tipped with purple), Distinction, Queen of the Whites (a charming new variety), Hesperia, Ganymede, Mignon, Adelaide, Nerissa, Darkest of All, Zorania, Nellie Bromhead, Cyril, Jessica, San Toy (white edged and tipped with rosy-purple, quite distinct), Malcolm (a new white), Romulus, &c. Messrs. J. CHEAL & SONS came 2nd; and Mr. F. M. SEALE, 3rd.

There was a good competition also with twelve bunches, Messrs. J. CRAY & SON taking the 1st prize with excellent blooms of Tommy Keith, Douglas, Lillian, E. Harper, Dr. Jim, Whisper, Bacchus, Nellie Bromhead, Novelty, &c. Mr. JOHN WALKER was 2nd; 3rd, Mr. G. HUMPHRIES.

Single Dahlias.—Two collections only of twenty-four bunches were staged, and they formed a pleasant change from the double flowers. Messrs. J. CHEAL & SONS were 1st with some charming bunches; chief among the varieties were Miss Girdlestone, Wm. Parrott, Beauty's Eye, Snowdrop, Royal Sovereign, Madge, Columbine, Hilda, Cerito, Victoria, Leslie Seale, Miss Roberts, Eric, Robin Adair, &c. Mr. F. M. SEALE was 2nd with Phyllis, Robin Adair, Columbine, Jeannette, Miss Glasscock, Fred Seale, Victoria, Yellow Perfection, Polly Eccles, Harry Brater, &c.

With twelve bunches of Singles Mr. JOHN WALKER came 1st. He had pleasing blooms of Edie Obelin, Duchess of York, Fascination, Aurora, Duchess of Westminster, Alice Seale, Robin Adair, Beauty's Eye, Susie Seale, &c. Messrs. J. CRAY & SON were 2nd; and Mr. G. HUMPHRIES, 3rd.

AMATEURS' DIVISION.

The amateurs are now a numerous body, and accessions are annually being made; a goodly number of small classes are included, and these give an opportunity for growers of small collections to show what they can do.

Show and Fancy Dahlias.—With twenty-four blooms Mr. THOS. ANSTISS, Brill, Bucks, an old supporter of the Society, was placed 1st, with excellent blooms of J. T. West, Mrs. W. Slack, Mrs. Langtry, W. Powell, John Hickling, Duchess of Albany, John Walker, Marjorie, R. T. Rawlings, Mrs. Gladstone, Dr. Keynes, &c.; Mr. J. PILLING, Gee Court, Hyde, was 2nd. In addition to the first of the money prizes in this class, Mr. ANSTISS also became the holder of a handsome Silver Challenge Cup.

With eighteen blooms there was a good competition also, Mr. A. PARKER, Ivy Hatch, Sevenoaks, taking the 1st prize; and Mr. S. COOPER, Hamlet, Chippenhams, was a close 2nd.

With twelve blooms of show Dahlias only, Mr. J. NEWMAN, Bell Inn, Kingswood, Bristol, was 1st with Mr. Glasscock, Marjorie, Dr. Keynes, R. T. Rawlings, Duchess of York, Mrs. Glasscock, Florence Tranter, Richard Dean, John Rawlings, &c.; Mr. J. COUSINS, Green Lane, Cheltenham, was 2nd.

With six blooms of show varieties only, Mr. GEORGE HOOD, Langley Burrell, Chippenhams, came 1st.

The best twelve fancy Dahlias were set up by Mr. S. COOPER, Hamlet, Chippenhams, who had in good character Rev. J. B. M. Camm, Mrs. Saunders, Dandy, Hercules, Sunset, Watchman, Matthew Campbell, &c.; Mr. T. ANSTISS came a close 2nd.

With six blooms of fancies, the 1st prize fell to the lot of Mr. J. NEWMAN, who had well-developed blooms of Mrs. Saunders, Gaiety, Matthew Campbell, and Hero in his half dozen; Mr. J. COUSINS was 2nd.

Cactus Dahlias.—With six bunches, six blooms in each bunch, each shown in a vase arranged with foliage, there appeared to be only one exhibitor, Mr. E. TURNER, Hippington, Sevenoaks, who was placed 1st. For nine varieties, three blooms in a bunch with foliage, a class in which a Silver Challenge Cup was given, Mr. P. W. TULLOCH, the Secretary of the Society, Hove, Brighton, was placed 1st with excellent blooms of Mrs. E. Mawley (awarded a Silver Medal as the best bloom of a Cactus variety in this division), Mrs. H. J. Jones, J. H. Jackson, P. W. Tulloch, Florence, Miss F. M. Stredwick (a fine new white), H. T. Robertson, Mrs. Winstanley, Lyric, &c.; Mr. W. PETERS was 2nd. With six varieties also in bunches of three blooms, Mr. H. BROWN, North Street, Luton, came 1st; he had well-developed blooms of Ajax, J. W. Wilkinson, Lord Roberts, J. H. Jackson, Mrs. E. Mawley, and Up-to-Date. Mr. F. GRINSTEAD took the 2nd prize.

With twenty-four blooms of Cactus, shown on boards, there was a keen contest, Mr. H. A. NEEDS, Horsell, Woking, coming 1st with excellent blooms of Alpha, Mrs. E. Mawley, Floradora, Clara G. Stredwick, Uncle Tom, Lady Colin Campbell, J. W. Fife, Mabel Tulloch, Gaillard, Mrs. Clinton, Winnifred, Richard Dean, Ringdove, Lyric, &c. Mr. J. BRYANT, St. Martin's Terrace, Salisbury, was 2nd.

With twelve blooms, similarly shown, Mr. H. BROWN was awarded the 1st prize with Ajax, Chas. Woodbridge, Mrs. E. Mawley, J. W. Wilkinson, Lord Roberts, Rosine, Exquisite, Mrs. Carter Page, &c. Mr. E. T. MATTHEWS, 42, Almond Street, Derby, was 2nd.

With twelve blooms there was a keen competition, Mr. H. BROWN, Luton, being 1st; 2nd, Mr. E. T. MATTHEWS, Derby.

Pompon Dahlias.—The 1st prize for twelve varieties, six blooms of each, went to Mr. H. BROWN, who had some pretty varieties; and Mr. J. F. HUDSON was 2nd.

Single Dahlias were shown by amateurs in two classes in one case in six bunches of ten blooms, Mr. J. F. HUDSON taking the 1st prize, and Mr. E. MAWLEY, 2nd, both with excellent varieties.

Decorative Classes.—The best basket of Dahlias arranged with foliage was shown by Mr. H. A. NEEDS, who used pale-tinted Cactus varieties with bronzy and green foliage—a pleasing object; Mr. R. EDWARDS, Sevenoaks, came 2nd.

With a vase of Dahlias, Mr. NEEDS was again 1st; in this case he used scarlet and crimson Cactus Dahlias, with variegated and bronzy foliage. Mr. P. W. TULLOCH was 2nd; he had orange Cactus, with bronze and green foliage.

Mr. TULLOCH was awarded the 1st prize for three vases arranged with foliage; he had one variety of a Cactus Dahlia in each vase with pretty foliage. Mr. E. MAWLEY came 2nd.

The best shower bouquet of Dahlias came from Mr. W. TRESEDER.

The class for a basket of Cactus Dahlias arranged with any foliage brought three competitors, and the awards of the judges were not unanimously approved. Mr. SEALE was awarded the 1st prize. He used red and salmon-tinted flowers with pretty foliage; Mr. W. TRESEDER came 2nd with lighter colours, and many thought his arrangement the most tasteful; the 3rd basket had some weak points. There were several attractive vases of Pompon Dahlias.

SEEDLINGS.

The practice of the National Dahlia Society in relation to seedlings is open to grave objections. It is required that they have stems not less than 9 inches in length without any support, and they are placed on a table by themselves, and after the judging is completed they are dealt with by the Committee and Judges. They were placed on this occasion at the end of a table near a window through which the sun shone brightly, and by the time they were dealt with they had taken on a deplorable hang-dog look, the flowers bent down over the vases, and in order to inspect the blooms they had to be held up aloft and looked at from below. As they are judged solely as exhibition flowers, all this appears to be needless. It would be much better to have all new varieties set up on supports as they are shown and judged in that form, and this should be done concurrently with the judging of the general classes, so that the blooms may be seen as fresh as possible.

Certificates of Merit were awarded to the following:—

Cactus Miss F. M. Stredwick.—A charming and finely formed pure white variety, with a slight primrose centre; an addition to the group of white varieties, which is not too strong.

Cactus Sirius.—An excellent addition to the striped varieties. Bright yellow ground with stripes of crimson.

Cactus Mrs. J. W. Wilkinson.—Deep rosy-pink with a pale centre. Of a pleasing shade of colour, and a welcome addition to the pink and rose tinted varieties.

Cactus H. L. Brousson.—Delicate salmon on a pale yellow ground; pretty and refined. Selected for a Silver Medal as the best new seedling, though the opinion of the judges was not generally concurred in.

Cactus Pearl.—Of a beautiful soft rosy-pink shade, very pleasing and refined.

The foregoing five varieties were all from Messrs. J. STREDWICK & SONS, the raisers.

Cactus H. W. Sillem.—A large, bold, and striking bright crimson variety, promising to be valuable for exhibition purposes (H. SHOESMITH).

Pompon Queen of the Whites.—Delicate creamy-white; an average-sized flower of excellent form, petal, and centre (C. TURNER).

Pompon Edna.—Deep yellow, with a slight brownish-red centre; medium-sized, and of excellent form (C. TURNER).

Single Dahlia Princess of Wales.—Pink, with a delicate shading of heliotrope; a highly refined and distinct variety of perfect shape (J. CHEAL & SONS).

TRADE EXHIBITS.

Round the outside wall of the Hall were staged several very fine trade exhibits. Messrs. H. CANNELL & SONS, nurserymen, Swanley, had Cactus Dahlias in great variety and in bold bunches, alternated with panels of Kochia scoparia, and in addition some large broad-petalled decorative varieties from the Continent, including the Collarette types (Silver-gilt Medal).

On the opposite side HOBBS (JOHN GREEN), Norfolk Nurseries, Dereham, had a very tasteful arrangement. Against a black background they had traced a series of arches of Smilax, and in front of this an imposing array of Cactus and other Dahlias, inclusive of some valuable new varieties (Silver-gilt Medal).

Mr. J. T. WEST, Dahlia Specialist, Tower Hill, Brentwood, had a large collection of Cactus and Pompon Dahlias in bunches, all in excellent character (Silver Medal).

T. S. WARE, Ltd., Hale Farm Nurseries, Feltham, had a large collection of bunches and single blooms of Cactus varieties, including many of the new varieties of last year (Silver Medal).

Messrs. W. CUTBUSH & SON, nurserymen, Highgate, also had bamboo-stands and vases of Dahlias in variety (Silver Medal).

ANSWERS TO CORRESPONDENTS.

**** EDITOR AND PUBLISHER.**—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

ALDER FUNGUS: F. W. B. The outgrowth is due to a fungus, *Exoascus*, similar to that which produces Peach-blister.

ARAUCARIA IMBRICATA CONING: F. W. The poor specimen about 30 feet in height will probably not survive many years. It is not uncommon for such trees to produce a large number of cones. If any of them should prove to contain seeds it will be proof that a male specimen exists in the locality, for the trees are dioecious, i.e., each is of one sex only.

BOUVARDIAS: E. Q. The injury to the tips of the shoots is the result of something not being quite right in cultivation. There is no disease.

CHRYSANTHEMUM MAXIMUM: Jas. Ross, Rowantree Nursery, Alexandria, N.B. This is a capital variety, the flowers being $5\frac{1}{2}$ inches across. The blooms are quite as large as those of "Edward VII.," described under "Awards," on p. 180, but the florets are rather less wide, and the general appearance therefore "starry" and attractive.

CUCUMBER LEAF-SPOT: Telegraph would be glad if we would answer the following questions with regard to Cucumber Leaf-spot. "1. The principal causes of spot? 2. What methods there are of safeguarding crops against spot, and of stamping out the disease when it first appears? 3. Can any remedy be applied which will both prevent and check spot disease, and which also will cause no damage or disfigurement to the growing fruits in connection with market sale? 4. Can the disease be introduced in the Cucumber seed bought from seedsmen? If not, how has the disease spread over such a wide area, when it first appeared in the Worthing district? 5. What is the best way to disinfect houses in which spot disease may have appeared, so as to prevent, if possible, a recurrence of the same next season? Briefly, from the above questions, I wish to know if spot can be treated and kept at bay without spoiling the fruits; what means to take to prevent or check an outbreak of it; and, in the case of spot showing, how to disinfect the houses so as to get rid of the pest on next season's crops."

ANSWER.

1. There is only one cause, that is a minute parasitic fungus called *Cercospora melonis*, of Cooke. 2. Can be safeguarded by avoiding "soft foliage," caused by the presence of too much moisture in the atmosphere, too free use of manure, and deficiency of ventilation. The latter is important, even if extra heat is required to maintain the required temperature. Spray every portion of earth in the house with Bordeaux-mixture once a week from the first, even if there is no evidence of the disease. With persistent attention the disease can be stamped out; or, better, it can be prevented from appearing by spraying with sulphide of potassium, 2 ozs. in 3 gallons of water, in which 2 ozs. of soft-soap is dissolved. Infection can only take place on the under-surface of the leaf, hence this portion should be thoroughly covered with the solution. Use this solution every other day instead of water that is used for syringing. The spraying taking the place of syringing. 3. Answered under No. 2, except to state that the solution will not injure the fruit. 4. The disease cannot be introduced with the seed. The spores are spread by wind, tools, clothing, insects, &c. 5. Empty the house and drench

every part inside with Bordeaux-mixture. Add gas-lime to the soil, and mix thoroughly at least two months before it is placed in the house. *G. Massee.*

FERN-CULTURE FOR MARKET: C. E. B. W. We do not know of any such book.

GLOXINIA: F. P. No, it is not new. Forty years ago there was a "race" of these plants, which form a supplementary corolla outside the first; but they have dropped out of cultivation, and now we only see imperfect specimens such as you send.

INSECT: W. T. P. *Sirex gigas*, the Giant Saw-fly; not uncommon, but very destructive.

MICROSCOPE: C. E. B. W. You cannot learn how to use the microscope from a book. You must get some friend to show you the way, or better still attend some class. As you are not far from Chelmsford you might make enquiry at the Laboratory there. You can get a microscope for from £5 to £50 and upwards.

MONKEY NUTS: C. W. D. *Arachis hypogea*, the ground nut of which you will find an account in the *Treasury of Botany*.

NECTARINE CRACKING: H. J. K. The supply of water has been in excess of what the fruit could deal with. It has done its best, but cracked in the effort.

NAMES OF FRUITS: J. P. The Pear is Jargonelle. —*S. L. Cock.* Probably Early Margaret, of Kent growers, but the specimens appear to be dissimilar, except for colour. Could you send otherspecimens, taking care that all are gathered from one tree?

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number. —*A. T. Cozens.* 1, *Veronica formosa*; 2, *V. anomala*; 3, *V. Haasti*; 4, *V. pinguifolia*; 5, *V. pimelioides*. —*P. T. W. Z.* *Davallia hirta* var. *cristata* as far as can be judged from the poor specimen. —*J. L.* *Linaria vulgaris*, common Toad Flax; natural order *Scrophulariaceae*, near to *Antirrhinum*. —*E. W., Wales Court.* A species of *Echites* (a New World genus), perhaps *E. umbellata*; not likely to be indigenous in Australia. —*W. B.* *Desfontainea spinosa*; perhaps *Helleborus fetidus*. —*A. N.* 1, *Cotoneaster Simonsi*; 2, *Gnaphalium margaritaceum*; 3, *Sedum spurium*. —*Corokea.* Both forms of *Ficus stipularis*. —*H. J. P.* 1, *Mesembryanthemum* species; 2, *Sedum glaucum*; 3, *Monarda didyma*; 4, *Lonicera brachypoda aurea*; 5, *Spiraea Lindleyana*; 6, *Achillea ptarmica* (double); 7, *Senecio Jacobea*; 8, *Achillea Millefolium*; 9, *Salix*, we cannot name the species. —*E. C. C. D.* *Salvia Horminum*, *Hydrocotyle vulgaris*. —*F. E. G.* *Itea virginica*. —*G. B.* *Silene Armeria*. —*A. B.* Spot on Grapes, see last week's issue; 1 and 3, species of *Inula*, which we cannot name; 2, *Olearia Haastii*; 4, *Achillea Ptarmica*, double; 5, *Veronica spicata*; 6, *Malva moschata alba*; 7, *Corydalis lutea*; 8, *Polemonium coeruleum*; 9, *Agrostemma Githago*; 10, *Campanula grandiflora*, sometimes called *Platycodon*; 11, not found; 12, *Alstromeria aurea*; 13, a hybrid *Veronica*. Another time do not send more than six; our time is precious, and we cannot find enough of that commodity to be able to hunt up species, the names of which we do not happen to remember. —*M. S.* *Odonoglossum* × *loochristyense*, a supposed natural hybrid between *O. triumphans* and *O. crispum*. —*J. H. D.* 1, *Iresine Lindenii*; 2, *Iresine Herbstii*; 3, *Alternanthera amœna*; 4, *Alternanthera paronychioides*. —*Vardon.* 1, *Oncidium ampliatum*; 2, *Oncidium flexuosum*; 3, *Odonoglossum constrictum*; 4, *Odonoglossum Lindleyanum*. —*C. J.* 1, *Bocconia cordata*; 2, *Funkia ovata*; 3, *Spergularia pilifera*; 4, *Ampelopsis quinquefolia*, *Virginia Creeper*; 5, *Lamium maculatum*. —*H. J. G.* 1, *Alnus laciniata*; 2, *Castanea vesca variegata*; 3, *Alnus imperialis*; 4, *Erigeron speciosus*, probably. —*A. B. T.* 1, *Cattleya Loddigesii*; 2, *Cattleya intermedia*. The difference in the form of the labellum in these species is a very reliable feature. —*C. H., Guildford.* *Begonia Froebelii*. —*R. H. W.* 1, *Fuchsia procumbens*, a good basket plant for greenhouse; 2, *Veronica* species, see next week's issue. —*S. Hedges.* *Hollies*, varieties of *Ilex aquifolium*: — 1,

Handworthensis argentea; 2, *argentea marginata*; 3, *laurifolia aurea*; 4, *Watereriana*; 5, *Lawsoniana aurea picta*; 6, *aurea regina*; 7, *Handsworthensis argentea*; 8, *ferox argentea*; 9, *aurea marginata*; 10, *Crataegus Crus-Galli*.

ORPHAN FUND. Mr. H. Bateman is thanked for 3s. 6d. contributed to this fund.

PEAR LEAVES: H. D. The leaves are infested with the larva of the Pear Slug-worm, *Selandria atra*, figured in the *Gardeners' Chronicle*, June 2, 1894, p. 703. Dust the trees with quicklime, and repeat the operation several times, for the reason that although the lime will surely kill them if it remains upon their bodies sufficiently long, they are able to get rid of the first application by changing their skin, as do snails. They are not capable of changing the skin twice in a short space of time. Lime-water has been found useful against this pest. Use about 1 peck of lime and 2 lb. of soft-soap to 30 gallons of water, and spray it over and under the leaves before seven o'clock in the morning and after five in the evening.

PLANT REFERENCES: M. B. *Lathyrus aurantius*, Koch. We find no mention of this in Boissier's *Flora Orientalis*. *Rosa orientalis* is described at p. 225 of the Supplement to that work.—*Calendula*. We do not know where the five species you mention are figured. They are not in Pritzels.

ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS: W. S! Apply to the Secretary, Royal Horticultural Society, 117, Victoria Street, Westminster.

ROYAL HORTICULTURAL SOCIETY: H. M. The yearly subscription of Fellows is from £1 1s. to £4 4s. Apply to the Secretary, whose address already appears in this column.

SHALLOTS OR EGYPTIAN ONIONS: Station-Master. Perhaps the following quotation from the *Vegetable Garden*, the English translation of Messrs. Vilmorin's authoritative work, will settle the point:—"In England a large-bulbed, vigorous-growing variety is cultivated under the name of Russian or Large Brown or Large Red Shallot, bulbs nearly twice the size of the true Shallot. The outer skin is of a reddish-brown colour, the inner scales deep violet or purple. Cloves grow in tufts of from three to seven. Leaves erect, 18 inches long, deep green in colour." To make sure, we applied to several of the salesmen in Covent Garden, and append the note we received in reply:—"Unmistakably Shallots, and very fine bulbs indeed; but owing to their unusual size not so saleable as the smaller ones, in so far as the market trade is concerned."

TALLY: E. C. C. D. The market tally is a number (sixty), not a weight. A tally of Cabbages would mean sixty heads.

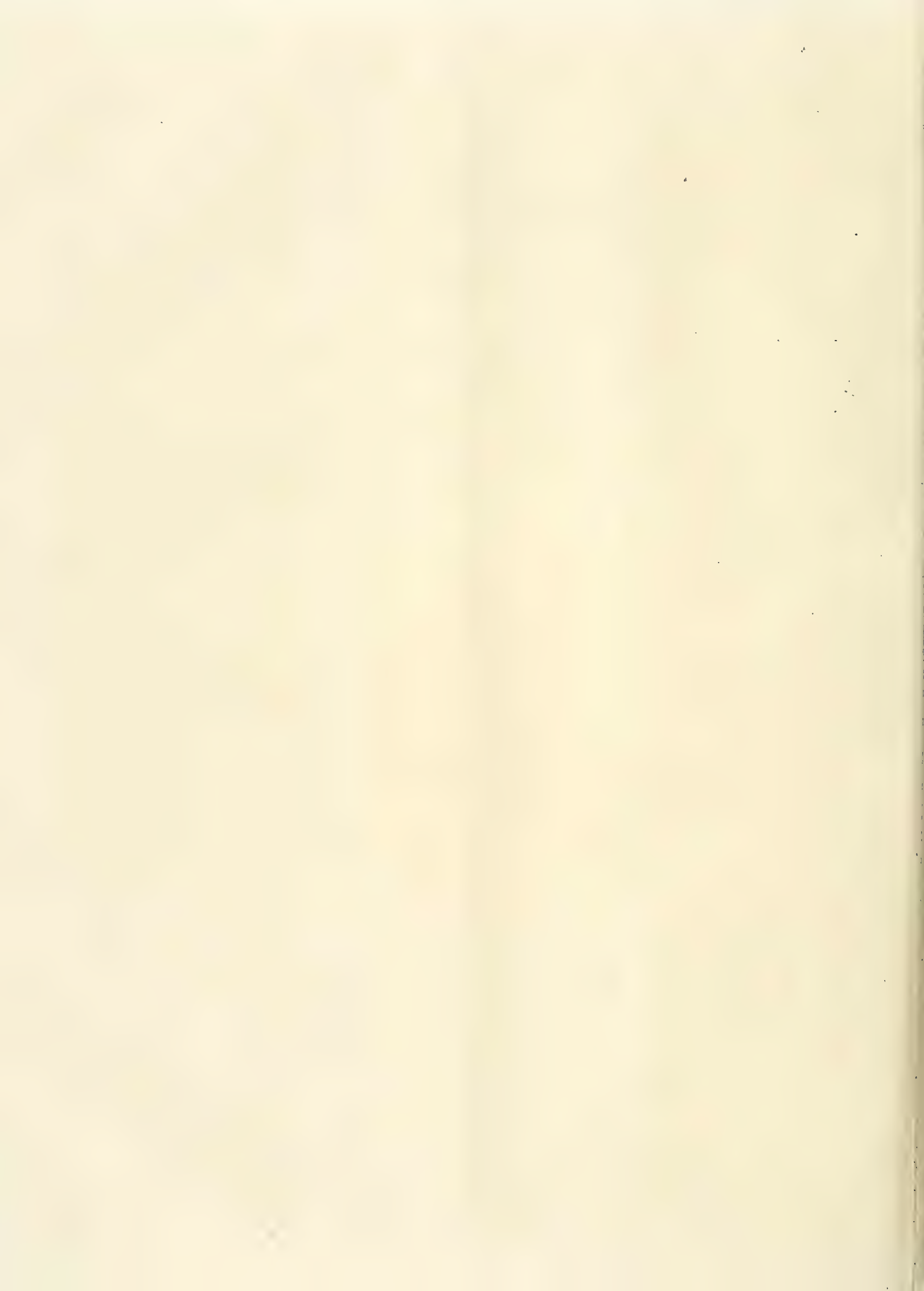
TOMATO FRUIT: E. Q. The hard patches in the ripe fruit are due to excess and consequent granulation of one of the constituents caused by lack of potash in the soil. Sulphate of potash should be used in the soil, but not kaint. There is no fungus concerned in the case.

TOMATOS: Correspondent. The Tomato-spot, caused by a fungus (*Cladosporium*). Spray the young plants with weak Bordeaux-mixture. Burn the affected plants, and take care that the house is sufficiently ventilated. For green-fly on *Smilax*, fumigate with XL-All, but remember it is a virulent poison.

COMMUNICATIONS RECEIVED.—*J. M. B.*, the paragraph appears to us to be of the nature of an advertisement. We shall be glad to consider any interesting articles.—*J. D.* (the report was too nearly like a catalogue and too long. We will use what is possible).—*M. Grignani*.—*S. W. F.*.—*E. G.*.—*M. Rashleigh*.—*Sir George King*.—*D. R. W.*.—*W. B. H.*.—*J. E. J.* (photograph under consideration).—*W. A. C.*.—*W. E. G.*.—*Protheroe & Morris* (next week).—*R. J. A.*.—*E. D. R.*.—*America-Garden City Pioneer Company*.—*F. Davis*.—*W. C. & Son*.—*A. D.* (thanks for photograph).—*A Reader-Young Gardener*.—*Dodo*.—*Evelyn Chapman*.—*Expert*.—*J. D. G.*.—*W. H. D.*.—*Leo G.*.—*R. Weichsel & Co.*.—*E. Ward*.—*S. W. F.*.—*H. D.*.—*Letellier, Fils & Cie.*.—*C. H. Whitlow* (next week).—*Constant Reader*.—*F. Hayes* (we still find no injurious fungus).—*M. W.*.—*W. G. S.*.—*W. H. E.*.—*W. L.*.—*J. B.*.—*E. C. C. D.*.—*A. C.*.—*W. Wright*.—*J. H.*.—*C. H.*.—*Alwin Berger* (with thanks).



CACTUS DAHLIA CHEALS' WHITE : HALF SIZE.





THE Gardeners' Chronicle

No. 872.—SATURDAY, SEPT. 12, 1903.

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A NEW INSECT PEST ON STONE FRUIT TREES.

(GELECHIA NANELLA.)

DURING the past few years considerable damage has been wrought to Apricot, Peach, Plum, and Cherry-trees by an insect which has destroyed the buds by eating out their contents, and so preventing the development of the fruit.

The damage was chiefly noticeable in spring, and at first suggested the presence of the Red Bud Caterpillar; but as the caterpillars of the plague in question appeared on the trees long before the time when the Red Bud grub is usually found, a series of observations was made by the writer with a view of ascertaining the identity of the insect responsible.

The result was that the Red Bud grub was found to be innocent, the damage being due to the ravages of the larva of a small moth (Gelechia nanella), which will probably be found to have a much wider distribution than has been anticipated, especially as the larvæ are so easily introduced to gardens or nursery stock.

This moth belongs to the group known as "Tineina," and to the genus "Gelechia," and although it has been known to science from 1776 or thereabouts, and known in Britain since 1828, its early life history has remained "a sealed book."

It is possible that, now attention has been drawn to the ravages of its larvæ, many hitherto unexplained failures of fruit which have been

The white marks formed in the leaves, indicating where the tissues have been devoured by the larvæ, are very conspicuous, and it is not unusual

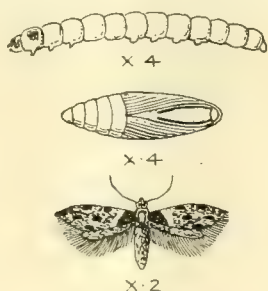


FIG. 68.—GELECHIA NANELLA: LARVA AS SEEN AT END OF MAY, PUPA IN JUNE, AND MOTH ON WING IN JULY. (Magnified)

vaguely attributed to failure of the fruit to "set" or other causes, will be traced to the presence of these larvæ in the buds.



FIG. 69.—LEAF OF APRICOT IN SEPTEMBER, SHOWING MINES MADE BY CATERPILLARS.

The first indication of the presence of the pest is afforded by the leaves, in which the larvæ mine during August, September, and October.



FIG. 70.—SHOOT WITH SECTION OF BUD, SHOWING POSITION TAKEN BY YOUNG CATERPILLAR IN SPRING.



FIG. 71.—SHOOT OF APRICOT IN SPRING, WITH BUDS CONTAINING CATERPILLARS. (A) ruined blossoms; (B) damaged growth buds.

to find a dozen or more in a single leaf. If one of these is opened, the small larvæ will be found feeding at the end of their mines (fig. 69).

The general colour of the caterpillar is reddish or russet-brown, the head and a patch on the first segment of the body being dark brown or



FIG. 72.—SHOOT OF APRICOT IN AUTUMN, SHOWING WINTER HOME OF THE CATERPILLAR AT THE BACK OF BUD. (Magnified)

black. As the time of leaf-fall approaches, the larvæ, which have then attained a length of about $\frac{1}{2}$ inch, desert their mines. Many retreat to the twigs, and there form little white silken

cases in the axils of the buds in which to pass the winter (fig. 72). Those larvæ which leave the twigs form their cases either in crevices of the wall or in the folds of the cloth-shreds used to secure the tree. In these cases the larvæ sleep until growth commences in the spring.

Towards the end of February they leave their winter homes, and in sunshine may be seen crawling on the twigs searching for the opening buds. Having made its selection the larva eats its way inside, and from that moment the bud is doomed. The apex of the bud is lined with silk, and in the case of a growth bud it is also bound to the side of the twig with silk. The larva now applies itself to its work of destruction and rapidly increases in size until, by the end of May, when it is full-grown, it has attained a length of about $\frac{3}{4}$ ths of an inch (see fig. 68). When nearly full-grown considerable variation may be seen in the colour of the caterpillars, some retaining the russet-brown colour of autumn, whilst others are pale green. All, however, retain the dark head and mark on the first segment of the body.

The majority of the caterpillars enter the pupa stage whilst still in the bud, and without any further preparation than the lining of the cavity in the bud (by this time reduced to a mere shell) with silk. A few leave the buds, and their pupæ may be found enclosed in silken cocoons in the shreds used in training the trees. The pupæ at first have the head and tip of the body pale brown, with the wing cases and centre of body pale green, but later they become a uniform pale brown.

The moths, which emerge from the pupa early in July, measure about $\frac{1}{2}$ inch across the wings, which are dark grey, very prettily mottled, and streaked with black and white (fig. 68). The extent and density of these markings vary considerably in individuals; but the oblique white line, which crosses the wings near the base, is more or less developed in each.

The moths appear to possess small powers of flight, and pass the day resting on the walls or on the trunks and branches of the trees, where, by reason of their sober colouring and small size, they are easily overlooked (fig. 68).

From what I have said, it will be seen that practically the only time when the insects are conspicuous is when they are mining in the leaves; hence it is advisable to pick off and examine all buds which fail to develop in the spring.

If this insect is responsible for the check, the larva will be found snugly ensconced inside the bud (see fig. 70). It will also be seen that, from the position taken up by the insects, remedial measures are not easily applied. The following have been used with success, and are recommended for dealing with the pest.

REMEDIES.

On the first appearance, in August or September, of leaves marked with pale streaks, indicating that the pest is at work, the trees should be examined, and all leaves found to contain larvæ picked off and burnt (fig. 69). The part of the tree most generally infested is that from 5 to 6 feet from the ground.

Little can be done from October to February, when the caterpillars are resting in their silken cases; but the cloth shreds may be looked over, and any found to contain hibernating caterpillars should be removed and destroyed.

By the third week in February the trees should be sprayed with petroleum emulsion, quassia, or Paris-green, with a view of preventing the caterpillars on emergence attacking the buds.

From this time onward any buds which fail to develop should be picked off and, together with the contained larva or pupa, taken away and burnt.

Finally, early in July, when the moths appear on the wing, a further spraying of the foliage

with one of the solutions mentioned above will assist in preventing the moths from depositing their eggs on the leaves, and so laying the foundation of a future attack.

The latest work on Entomology, speaking of this insect, observes that it is "variously said to feed on the flowers and in the shoots of Pear-trees," but the writer has not yet discovered it on Pear or Apple. In some published lists of fruit-growers' foes it is also given as one of the enemies of the Pear-grower, no mention being made of its ravages among stone-fruits. This will no doubt explain why injury to stone-fruits has been attributed to other sources, and the ravages of *Gelechia nanella* overlooked. J. T. Houghton, *Public Library, Worksep.*

IRELAND.

A GARDEN IN WICKLOW, MOUNT USHER.

[SEE SUPPLEMENTARY ILLUSTRATION.]

(Concluded from p. 82.)

THEN there is the garden in the wood across that beautifully light and fairy-like suspension bridge represented in the supplement to this week's issue. The suspension bridge connects the road entrance or drive down the wood gardens with the house garden, and the wire ropes, as shown in our picture, are draped with *Wistaria* on one side, and *Clematis montana* on the other. There is also another entrance from the Ashford side, with its *Primula-fringed* rivulet, its stepping-stones, with choice flowering shrubs on the grass; and before entering the river, the little brook forms a pool, fringed with marsh-loving plants and semi-aquatic bulbs, such as *Leucojum æstivum*, *Iris*, *Arum Lilies*, &c., flanked with Bamboos, while on its surface float the mottled pads or leaves and exquisite blossoms of some of the best of *Marliac's* coloured *Water-Lilies*.

There are other pools and circular fountains on the walks near the creeper-festooned cottage, in which *Water-Lilies*, *Aponogeton*, *Water Hawthorns*, or *Cape Pond-weed*, *Indian Club*, *Azolla filiculoides*, and other choice aquatic plants thrive.

To see the river-wall covered in March and April with fleece-like masses of purple, crimson, or lilac-coloured *Aubrietia* is a sight not readily to be forgotten. This wall is also furnished with other vegetation, such as *Dianthus*, *Sedum*, double-flowered *Brambles*, and other things. The Californian *Zauschneria* is scarlet in autumn on the sunny wall-face, and its effect, like that of the spring-tide *Aubrietias*, is intensified or enhanced by the reflections in the still water below. In summer, the *Vartry* seems to go to sleep at times on the broads between the weirs over which it falls, foams, or splashes merrily nearly always; but in winter and spring, after heavy rains or snow-storms on the mountains, the peaceful little river becomes a raging torrent, its waters discoloured with mud or peat water; and now and then it has tried to rise above the protecting wall and invade the walk and garden. Despite its force, however, there are some plants quite naturalised on the great rocky stones and boulders that occupy its bed, such as the great Californian *Saxifrage*, and two or three of the Japanese *Knot-weeds* or *Polygonums*, seen in the middle distance of our picture. The riverside trees which shade the river banks and the hardy Ferns in the old mill race are here very quaint and beautiful, consisting of a Spanish Chestnut with a splendid gnarled bole or trunk, groups of wild Cherries, Hawthorns, Oak, Ash, Sycamore, and Beech and Alder, still further afield. The point of view is just as, passing the cottage, the river vanishes into cool and shady pools beloved of the spotted trout and the white-breasted dipper or water-ouzel, which haunts the place, and may be seen dashing like lightning through the fringes or

curtain of a water-fall on the pond-overflow race near the house, behind which is ensconced the nest and its eggs or young. Even the lordly salmon nests and spawns in the gravelly bed of the tail-race here—a sight rarely seen in a garden!

In the cool of the evening, after hot summer or autumnal days, the mist hangs over meadow and river alike, and you may see the great grey herons rise from their fishing haunts beside the river, and float away to their roosting-places in the woods, like ghostly visitors from another sphere, or a flock of curlew pass seawards with their plaintive cry, and hear the wood pigeons coo and croon their last "Good-night," as the sunlight dies away.

The place is a haven of peace and rest, sacred to friends and flowers, to bird life and books, and to simple and genial hospitality. Even a soaking wet day—and it can rain in Wicklow—may be spent here with delight amid the selection of books, the pictures, the quaint bits of old Chelsea, varied by peeps through the window at the flowers and the birds or squirrels getting luncheons off bones or split Cocoa-nuts, or other suitable provender especially arranged for their benefit on the grey and lichen-embroidered branches of a great *Pawlonia-tree*.

To attempt to name even a tithe of the plants of all kinds that flourish here would be impossible, even if likely to serve any useful purpose, but they are all numbered with zinc tallies and duly entered in the books of plant life religiously kept. This system of labelling is practical, tolerably simple and efficient, without being obtrusive or conspicuous enough to destroy the charm of the plants themselves or the garden as a picture. You may see here the Maples and tree *Pæonies*, and the fertile hardy Palms of both sexes, and the hardy shrubby grasses, or Bamboos, nestling tall, though they be beneath the still taller *Ti trees* or *Cordylines*; as also the *Veronicas*, *Pittosporums* of New Zealand and Australasia, and *Sophoras* from China.

The purple-flowered Potato-tree (*Solanum crispum*) and its elegantly habited first-cousin, *S. jasminoides*, *Fremontia*, *Mandevilla suaveolens*, *Pomegranate*, *Myrtle* and *Oleander*, choice *Abelias*, *Spireas*, many *Rhododendrons*, *Zenobias*, *Andromedas*, and other *ericaceous* plants all flourish here in profusion. In autumn the best varieties of *Hydrangeas*, blue, rosy, and white, are very luxuriant and showy in the wood garden and elsewhere. *Tricuspidaria* forms a bush eight or more feet high and ten feet wide, and bears hundreds of its pendent red cherry-like flowers amongst its dark and glossy leaves.

The scarlet *Tropæolum speciosum* covers wall and bush, *Cydonia*, *Cotoneaster*, *Roses*, and dark *Ivied* screens, with its tender foliage and bright scarlet flowers, followed in autumn by a profusion of its crimson-purple calices set with turquoise-blue berries. Two of many plants which succeed here better than I ever saw them elsewhere are *Cypella Herbertii*, four feet high and five feet across, simply a great spreading sheaf of leaves and flower-spikes. The other is *Dierama* (*Sparaxis*) *pulcherrima*, with dainty spikes "like fishing-rods for fairies," five to seven feet high, elegantly pendulous at their tips, and each branchlet hung with bells that vary in colour from dark velvety crimson-purple to almost snowy-white. All the phases between the two so-called species, viz., *D. pendula* and *D. pulcherrima*, occur here from home-saved seed; and yet we are told that at Dunran, a quaint old place above Mount Usher, this plant is even still more luxuriant and charming when grown from seed.

The wood-garden, rich in *Phloxes*, *Lilies* of all the best species, *Hellebores*, *Tea* and other *Roses*, Bamboos, *Spireas*, *Meconopsis*, &c., with its choice inner circle round a *Water-Lily-pool* of

Trillium, Anemones, Primroses, Shortia, Galax, Ourisia, Parachætus, choice Camellias, and ericaceous plants is luxuriant and charming beyond words to say. Here again Cordylines, Bamboos, Abutilons, Cornus capitatus, and other rare shrubs abound, and we have never seen more brilliantly coloured beds or borders of St. Brigid Anemones than those grown here. In spring the grassy lawns are gay with Crocus, Dogs-tooth Violets, Bluebells, with circles or masses of hardy Cyclamen at ground level around the boles of the trees; and masses of Narcissi of many and varied kinds flutter in the soft breezes or rude gales—in the sun or rain of blustering March or of showery April.

You may visit Mount Usher any day in the whole year and never find it without flowers and healthy greenery. There are many good gardens in Wicklow, including Powerscourt, Kilruddery, Bellvue, Delgany, Dunran (with its castle near the centre of a circular walled-in garden with great Yew-trees and Yew and Laurel hedges, its trees, shrubs, and splendid scenery)—but there is only one Mount Usher, in the sheltered and happy valley of the Vartry, as it flows down from the celebrated Devil's-glen a mile or so away. It is an ever-charming focus spot of beauty—soil, shelter, fine aspect or position, variety of surface, ample water-supply, and a genial climate; but the great factor of all is the personal equation, viz., that of the genial owners, the Messrs. Walpole, makers of the place, of what may be called the overflow of their wealth, ability, energy, and leisure for an extended period of busy years. Not only has this garden been to them a source of personal enjoyment, but they have extended the pleasure it has constantly afforded them to hundreds of other people fond of horticulture, as the book signed by visitors amply shows. Our illustrations speak for themselves, and are from photographs taken by Mr. Geo. E. Low, who is himself a keen amateur gardener. *F. W. Burbidge.*

KEW NOTES.

VIEW IN THE PALM-HOUSE AT KEW.—The Palms at Kew are a source of interest and delight to all kinds of visitors, many of the specimens in the large Palm-house being almost equal in size to what they attain in a wild state in the tropics. When they reach a height of 60 feet or so they have to be sacrificed or they would soon push the roof off. A large sacrifice of this nature had to be made three years ago, and the view shown in the illustration (fig. 73) is from the gallery overlooking the younger Palms which replaced the giants then cut down. The fan-leaved Palm in the centre of the view is the Bermudan Sabal Blackburniana, no doubt the oldest Palm in England, as it was probably introduced by Admiral Bligh in 1793, and is therefore 110 years old. It is in vigorous health, and produces regularly large crops of Grape-like fruit. To the left is Howea (Kentia) Belmoreana, the first of its kind to be introduced from Lord Howe's island, it having been in the Palm-house fifty years. The plant flowers almost every year.

GERARDIA HYBRIDA.

A plant bearing this name is now in flower in the Pentstemon bed in the herbaceous ground at Kew. It was obtained last year from the curator of the Botanic Garden at Giessen, Herr F. Rehnet, who wrote an account of it, published with a figure in *Die Gartenwelt* for November 9, p. 99. The origin of the plant is said to be Pentstemon campanulatus crossed with Gerardia tenuifolia; but there appears to be some mistake here, as careful comparison shows that the supposed hybrid is simply a form of Pentstemon campanulatus, a most variable species. Probably the mistake arose from accepting as Gerardia tenuifolia a plant figured in *Illustration Horticole*,

1894, p. 159, under that name and since grown in Continental gardens, but which is a narrow-leaved, small-flowered form of the Pentstemon. Gerardias are mostly parasitical and of little or no value in horticulture.

LYSIMACHIA HENRYI.

There are two fine examples of this new Loosestrife now covered with flowers at Kew—one in the rockery, and the other in the herbaceous garden. They are cushion-like tufts a yard across and 4 inches high, formed of interlacing prostrate stems which ramify freely and root as they spread. The leaves are oblong, 2 to 3 inches long, dark green, and the flowers, which are in crowded heads all over the plant, are campanulate, $\frac{3}{4}$ inch long, bright yellow, and lasting. Judging by its behaviour this year, this plant ought to prove useful in many places in the garden, as it grows very freely and is evidently quite hardy. In some respects it resembles *L. paridiformis*,

to flower, but from some cause or other it has never revealed its true characters until this year. Probably the excessive wet and other peculiarities of weather experienced at Kew this season have suited the Kirengeshoma; at any rate it has made strong stems 2 feet high, robust dark green lobed leaves resembling those of Cineraria cruenta, and terminal panicles of bell-shaped, cream-yellow flowers nearly $1\frac{1}{2}$ inch long; the corolla composed of five overlapping oblong acuminate fleshy petals, somewhat recurved and free above, and so closely folded below as to appear united. A good idea of the plant may be got from imagining an ordinary Cineraria with flowers suggesting a Campanula. Prof. Yatabe, who is the author of the genus, says it is allied to Hydrangea and Philadelphus, and that it is a native of woods on Mount Ishizuchi, at an elevation of 5,000 feet. A figure of the Kew plant has been prepared for publication in the *Botanical Magazine*.



FIG. 73.—VIEW IN THE PALM HOUSE, KEW, AS SEEN FROM THE GALLERY IN MAY.

raised and flowered at Kew about ten years ago from seeds sent by Dr. A. Henry from Ichang, and of which a figure was published in the *Botanical Magazine*, t. 7226; but *L. Henryi* is quite prostrate in habit and has much smaller leaves. Dr. Henry discovered this new introduction, and it was named after him by Mr. Hemsley some years ago; but we owe the possession of living plants of it to Messrs. Jas. Veitch & Sons, for whom it was collected in China by Mr. Wilson.

KIRENGESHOMA PALMATA.

A brief description of this plant, taken from the Japanese *Botanical Magazine*, was published in the *Gardeners' Chronicle*, February, 1891, p. 202. In the same year Dr. R. Yatabe, of the Botanic Gardens, Tokio, Japan, sent seeds of it to Kew, and from these a single plant only was raised. This has been grown for ten years or so in a rather moist, sunny position in the rock-garden, and it has now and then made an attempt

ADENOPHORA POLYMORPHA.

A fine form of this is now flowering in the rockery at Kew. It is one of the plants collected in China by Mr. Wilson for Messrs. J. Veitch & Sons, to whom Kew is indebted for the example under notice. The stems are 5 feet high, branched, and clothed with numerous rich dark blue bell-shaped flowers an inch long, with acute corolla lobes and long narrow sepals. The species is, as the name denotes, very variable, some forms of it having small unattractive flowers. The present one may be compared with *Campanula Trachelium*, so far as general effect goes. It is quite hardy. The genus, which is scarcely known in gardens, comprises about a dozen species, and it belongs to the same group as *Ostrowskia*, *Symphandra*, and *Campanula*.

ACONITUM FISCHERI.

This is a rare plant. The figure in the *Botanical Magazine* under this name is, according to Dr. O.

Stapf, true *A. japonicum*, of which *A. autumnale* is a synonym. What is accepted at Kew as the true *A. Fischeri* may now be seen in flower in the collection there. It is three weeks or a month earlier than *A. japonicum*, of which there is a large bed at Kew, strong and full of flower-buds, and it also differs in the flowers being smaller and of a very dark purple-blue colour. It is decidedly a plant worth looking after for autumn effect. What is supposed to be a third species of the same group was introduced by Mr. Wilson from China, and will shortly be distributed by Messrs. J. Veitch & Sons as *A. Wilsoni*. According to Sir Joseph Hooker, upwards of three hundred specific names have been advanced for probably not more than thirty species of *Aconitum*! W. W.

ORCHID NOTES AND GLEANINGS.

CATTLEYA GASKELLIANA.

MR. ARTHUR COBBOLD obligingly sends us a flower, in which the upper or dorsal sepal is attached to the back of the column. As the vascular bundle which supplies the stamen that is opposite to the sepal starts originally from the same bundle as that which supplies the sepal, the malformation becomes intelligible.

EULOPHIA PEETERSIANA

is the subject of an attractive coloured plate in a recent number of the *Revue Horticole*. This is, according to Mr. O'Brien, the *Grammatophyllum Rœmplerianum* of Reichenbach, in *Gardeners' Chronicle*, 1877, p. 240. We shall have to wait till 1914 before the herbarium of the eccentric Professor can be consulted in order to obtain confirmation of this opinion.

CATTLEYA × PATROCINII, "WESTFIELD VARIETY."

A very fine improvement on the original form of this interesting plant is now in flower in the collection of Francis Wellesley, Esq., Westfield, Woking (gr., Mr. Hopkins). The original plant was recorded in Brazil as a natural hybrid of *C. Loddigesii* and *C. guttata leopoldina* (? *Leopoldii*) in 1890, and the same year a similar plant flowered in several European gardens. More recently it has appeared in other places, a very good form of it having been figured in the *Dictionnaire Iconographique des Orchidées*. Mr. Wellesley's variety is, however, much finer, notwithstanding the fact that the inflorescence bears six flowers. The flowers, which are over 4 inches across, are shaped like those of *C. Leopoldii*, except that the undulated and extended side-lobes of the labellum seem more continuous with the front lobe than in that species. The sepals are of a bright rosy-mauve colour freely spotted with reddish-crimson, the spotting being smaller at the backs of the segments than on the face. The labellum is clear rose-colour with a white base, and a darker rose hue in front of the stout white column. The crimped edge of the labellum also has a white margin.

Much confusion has been caused by classing *C. Leopoldii* as a variety of *C. guttata*. *C. hybrida* (typical *C. guttata* × *Loddigesii*) was raised by Messrs. Veitch nearly half a century ago, but that *C. Patrocinii* was a cross between *C. Leopoldii* and *C. Loddigesii* seems to be proved by the plant raised by M. Maron from that parentage and named *C. × Gaudii*; and further confirmation is given by Mr. Ed. Kromer, the collector, who informs me that he knows that the few original plants of *Cattleya* × *Patrocinii* were collected at Santa Catharina, where *C. Leopoldii* and *C. Loddigesii* grow together. The smaller and botanically different *C. guttata* he says is common even in the harbour of Rio de Janeiro, but not in Santa Catharina. J. O'B.

TROPICAL FRUITS IN ENGLAND.

It is stated that we are about to receive a large and regular supply of Mangos; those who love them may well exclaim, "At last!" Why this most delicious of the common tropical fruits has not been familiar in Europe for years was always a puzzling question for those who thought upon the matter. Botanists agree that India was its native home, because all the various names current in the East, or all which have no reference to its characteristics, can be traced to the Sanscrit. But even before the arrival of Europeans it was very widely spread, and they conveyed it to all their settlements. The Spaniards introduced Mangos to the Philippines in the sixteenth century, and Chinamen trading there, appreciating the novelty, carried the seeds home. The Dutch planted it in the Moluccas as early as 1655, and pirates, as the legend goes, transported it to Zanzibar and Madagascar. At the present time one would have to search far for an island in the Eastern or the Western Tropics where the Mango does not flourish. It has reached Egypt, for M. de Lesseps used to present his friends with some of the highest quality, grown at Ismailia. But hitherto there has been no regular export to Europe, and the small parcels that arrived mostly belonged to those villainous species which taste of turpentine. For there are Mangos and Mangos, ranging from varieties actually uneatable, through those which have a disagreeable "smack," more or less, to the perfection of "Bombay No. 9," and it is the former mostly which were distributed in old times; but some authorities of experience assign the bad flavour, as a rule, to soil or conditions unsuited to the tree. However, the good sorts are so common nowadays that we ought to have had the fruit in abundance ever since "cold storage" was introduced. Trinidad has come to the rescue. Such a large consignment is on the way that 400 boxes sent by special train to Covent Garden as soon as the vessel arrives will be only a first instalment. It is added that the fruit will be sold at "popular prices." If Mangos become an ordinary object on our dinner-tables persons of an ingenious turn will find an opportunity to distinguish themselves. A machine or apparatus for eating the fruit with comfort and decency has been a "felt want" for ages. In India they say that one can only enjoy it in the privacy of the bath, where no spectators can be disgusted by the process and no clothing can be spoiled. It must be admitted that there is a good deal of truth in this statement. The prettiest woman eating Mangos in public is a distressing sight for the fastidious, and the juice leaves a permanent stain. But it is certainly not beyond the resources of science to devise a neat little holder which should enable us to consume the precious thing without inconvenience to ourselves or others.

Several brand-new fruits have been discovered lately, besides the hybrids which enterprising gardeners have produced. In the country of Boma, behind Fashoda, Captain Welby found one which none of the people with him recognised. The tree resembled a Cherry, but the fruit was a "natural jam"—flavour not mentioned. "It came in handy for breakfast." In the same unexplored district he came across another, like an Orange, "the inside a mass of large pips covered with a yellow pulp." It was pleasant enough to eat, but wanting in taste. The account in each case suggests possibilities for the future. The common fruits, Apples, Pears, Plums, Cherries, were unpromising in their original forms. When the Gordon College at Khartoum has turned out native gardeners skilled in Western science, they may make something of their local produce. But it seems that Matabeleland possesses fruits which need no improvement. Half a century ago Livingstone discovered a curious nut called Maneko, the seeds of which are covered with a glutinous fibre, chewed by the natives, but not swallowed. Livingstone agreed with them that it was delicious. We are not aware that the Maneko has been noticed since that time, but lately it was discovered in Matabeleland. Another novelty is the Inhlada, a name meaning "famine fruit" in Zulu, because, they say, a little goes so far that in time of dearth many lives are saved by it. The nut, bigger than the largest Orange, contains an acid pulp in flavour like roasted Apples, much appreciated by the white colonists, who find the Zulu report quite correct—two of these nuts make a meal. Then there is the Marula, much like a Green Gage in taste, but the pulp is replaced by syrup; and an unnamed fruit, resembling an Apple in all respects. All these curiosities would grow in Southern Europe probably, and if they come up to the descriptions they may be introduced before long. It is well to recollect, however, that pioneers in Matabeleland would be apt to find anything in the way of fruit which was not bad delightful. But in the tropical countries of either hemisphere, besides the many species cultivated, an intelligent caterer often serves a dish of fruit which he cannot name. The bazaar people told him perhaps, but he never heard the word before, and he cannot remember it. These are "jungle fruits," always small, and nearly always delicious. Perhaps at some future day they may be cultivated. A traveller in Costa Rica once sent his servant to buy fruit in the market, and the man

brought back five species, all resembling the Medlar in taste, though utterly different in form, and all agreeable. No one at the hotel could name any of them.

But it is not creditable to the enterprise of our business men that scores of fruits common and valued in the European settlements have never been sent home. The explanation always offered is that nobody would buy them. The first consignment might be a loss; but it is not likely that, when people strive so hard for something new in their entertainments, such exquisite fruits as the Duku and the Rambutan—to name only two, almost as common in the Malay countries as Apples are here—would not sell. The true reason is want of enterprise—nobody has thought of it.

Of course most of these products would not bear the journey in former days; Mangosteens, which are so commonly pronounced the best of all, will not bear it now, they say. We should feel more confident on this point if assured that the experiment has been tried more than once on a large scale. Hundreds of people, no doubt, have bought some Mangosteens in the market, carried them aboard, and obtained permission to store them in the cool chamber—where they promptly decayed. But this is not business. There are so many legends about this queen of fruits, mostly unfounded, that one who is familiar with them may well doubt. Until a very recent date, it was an article of faith unquestioned that the Mangosteen would not live, much less fruit, beyond the charmed border of the Straits Settlements and Malay kingdoms adjoining. There was one striking piece of evidence to the contrary, no doubt.

The Duke of Devonshire, so famed for his devotion to horticulture, planted seeds of the Mangosteen at Chatsworth, and actually obtained two trees. They grew and grew for something like forty years. At length each bore a single fruit. One the Duke presented to Her Majesty, and one he ate himself. Next day the trees were cut down. But such a case did not affect the rule. A circumstantial story told how the Dutch authorities even of Java had spent much money in efforts to acclimatise it—always vain. And forty years ago it was true probably that no specimen could be found outside the limits given—because everybody supposed that it would be useless to make the attempt. But somehow the charm got broken, and now Mangosteens are flourishing from Bombay to the Philippines—not very fruitful yet, but that is because they are too young probably.

This, however, is the delight of epicures and persons of cultured taste. The vulgar, white or yellow, prefer Mangos and Durians; but as for the latter it must be added that many persons of the utmost refinement enthusiastically support the opinion of the populace. Durians could always have been imported without difficulty; with fair treatment they would sail round the world undamaged. We shall never see them at Covent Garden, notwithstanding—which is a bitter thought to many estimable persons who have served their Queen and country, or maintained the dignity of British trade, in the Far East. If a waggon-load of Durians passed through the streets of London unannounced, all the sanitary inspectors en route would turn out in panic, and the Borough Councillors might be summoned for a special meeting. Such is the awful smell of this fruit, which tastes, as its raving lovers declare, like nuts and cream. Personally, we should add, while admitting this flavour, a taste of Onions too strong for our palate. It may be asked how Europeans contrive to enjoy a fruit which for those who do not worship it is as disgusting as an open drain, and the stench does not pass away for hours. Both ladies and gentlemen form Durian Clubs. Each member in turn entertains the rest, and so the nuisance is distributed. *Standard*. [It was the Duke of Northumberland, at Syon House, who first fruited the Mangosteen in England. See *Gardeners' Chronicle*, June 2, 1855, p. 371. ED.]

REMARKS ON THE CONDITIONS OF THE FRUIT CROPS.

(See *Tables*, ante, pp. 72—77.)

(Concluded from p. 174.)

IRELAND.

GALWAY.—All small fruits were good, especially Strawberries. The "Leader" I find an excellent fruit, both firm in texture and of a bright colour; Laxton's Fillbasket is an excellent cropper. *And. Porter, Woodlawn Gardens*.

LONGFORD.—Small fruits and Strawberries were very good in this neighbourhood; Pears and Plums few, and Apples a total failure. For twenty-five years our orchards have not been so destitute of fruit. This is owing to the cold sunless season of last year, consequently the young wood did not mature. *John Rafferty, Castleforbes, Newtownforbes*.

SLIGO.—The blossoms of Apples, Pears and Plums were destroyed by frosts in April and severe winds in May. Strawberries have been

very good, particularly Fillbasket, which has been by far the most prolific variety here; Mentmore and Trafalgar also gave a good account of themselves, but such new sorts as the Laxton and Climax have been rather disappointing. *Joseph Sangster, The Gardens, Lissadell.*

LIMERICK.—The promise of good crops of fruits was very good here in spring, but the frosts during April destroyed all. The frosts were as

wooded fruit. Of Strawberries the show of bloom was excellent, but owing to cold damp weather when the fruit was taking colour, large quantities rotted on the plants, the variety Royal Sovereign especially so. *C. Smith & Son, Caledonia Nursery, Guernsey.*

JERSEY.—Again have frost and cold winds blighted the hopes of growers. A few Pears have escaped, but Chaumontel alone shows a fair crop,

CATTLEYA × PITTIANA, "J. WILSON POTTER'S VARIETY."

THE first plant to flower of this fine hybrid between *Cattleya granulosa* Schofieldiana and *C. Dowiana aurea* was in the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), and it was recorded in the *Gardeners' Chronicle*, August 9, 1902, p. 95. At the Royal Horticultural Society's meeting on September 1, J. Wilson



FIG. 74.—CATTLEYA × PITTIANA, "J. WILSON POTTER'S VARIETY."

follows: — on the 2nd, 2°; 12th, 2°; 14th, 7°; 16th, 8°; 17th, 8°; 18th, 7°; 19th, 2°; 22nd, 6°; and 24th, 5°. The wind was generally from the north. The rainfall for the month was 1.68 inch. *W. Bowles, Adare Manor Gardens, Adare.*

CHANNEL ISLANDS.

GUERNSEY.—Fruit trees generally this season flowered very early, indeed, too early to allow of a good set of bloom, which was probably the result of last summer, which failed to ripen the wood sufficiently. This applies to all hard-

and much of the fruit is badly marked by hail. Williams' Bon Chrétien has been particularly ravaged by small grubs, which appeared in hundreds in each fruit, hollowing it completely. Most growers were wise enough to pick and burn the affected fruits. This trouble has not been noticed here before. Apple-trees are showing Ermine-moth caterpillars again, but rather fewer than last year. Strawberries suffered much from extremely wet weather. Tomatos are largely grown again out-doors after Potatos. *H. Becker, Casarean Nurseries.*

Potter, Esq., Elmwood, Croydon (gr., Mr. W. H. Young), showed another variety of the same parentage, and was accorded a First-class Certificate.

The flower of Mr. Pitt's plant was 7 inches across, and of exquisite tinting, the cowslip-yellow sepals and petals being delicately tinged and veined with rose, and the centre and base of the labellum showing the rich gold veining of *C. Dowiana aurea*.

Mr. Potter's variety (fig. 74) partakes more strongly of *C. granulosa*, and its bronzy-yellow sepals and petals tinted with rose are of darker

hue than the original variety. The labellum has orange-coloured marking in the centre, the front being purplish-ruby-red, the fimbriated margin bluish-white. It is a very handsome flower, and the plant was cultivated to its best, but the flowers when exhibited were scarcely of full size. J. O'B.

THE ROSARY.

ROSE ZÉPHYRINE DROUHIN.

At last we have got on to the right track, and have been informed of the proper way to spell the name of this Rose. For this information we are indebted to M. Mottet, the author of a serviceable little book on Conifers and a frequent correspondent of the *Revue Horticole*. In that publication, in the year 1899, at p. 308, we find that this Rose is called in Switzerland Charles Bonnet; in England, Madame Gustav Bonnet; in Germany, Zéphyrine Drouhin; in Italy, Ingegnoli prediletta; in France, Zéphyrine Druot, Drouot, and Drouhot. At any rate gardeners must not rail at botanists for multiplying synonyms, for they are much concerned with glasshouses themselves.

Rose Zéphyrine Drouhin, as we must now call it, was raised by M. Binot, of Dijon, in 1873. M. Binot dedicated his Rose to Madame Zéphyrine Drouhin, the wife of M. Drouhin, a gentleman attached to horticultural pursuits residing at Semer (Côte d'Or). It is a hybrid Bourbon climbing Rose, almost destitute of thorns, and with the beautifully-coloured and deliciously-scented flowers to which we have already alluded. M. Mottet tells us it is exceptionally hardy, producing its flowers singly or in clusters of ten or twelve all the summer till checked by frost. It is easily propagated by cuttings or by budding. On September 7th we received a box of lovely blooms of this Rose from Messrs. Jas. Cocker & Sons, Aberdeen, who have cultivated the variety for some years. It is cited in their catalogue for last year as "Zepherin Drouot." The richly-coloured fragrant flowers are exactly the same as those described in our issue for August 22, p. 134.

FOREIGN CORRESPONDENCE.

PARIS.

FLOWERS AT FUNERALS.—For some years past there has been a tendency in Paris, owing to the excessive extent to which the practice has been carried, as elsewhere, to request that no flowers or wreaths should be sent on the occasion of a death. As this custom becomes more popular it will entail considerable loss on the florists. A member of the Société Nationale d'Horticulture who lately died left a request that no flowers should be sent, and as if to compensate for the loss to trade bequeathed a thousand francs to the Society above named. On the same principle it has lately been usual in Brussels to insert in the newspapers notices to the effect that New Year cards will not be sent by certain persons, who give to the poor the amount they would otherwise spend on cards. This generosity does not affect the tradesmen whose business is thus curtailed.

The Cours la Reine Hot-houses.—The large glass-houses erected at Cours la Reine, by the borders of the Seine, for the 1900 exhibition are not yet permanently occupied. The Société Nationale d'Horticulture make use of them in May and November for their flower-shows; otherwise the buildings remain practically unused. The authorities of Paris naturally hesitate to maintain these costly erections for occasional occupation only, and have offered them to the Society

for 10,000 francs a year. The Society would willingly hold meetings in the buildings, but could only do so four or five times per annum, and are asking for a less heavy rental. Probably a suitable arrangement will be made as the authorities do not wish to pull down the houses, and the Society hopes to get larger attendances at their shows. At the meeting on August 27 some fine Gladioli were shown by MM. Vilmorin-Andrieux, and M. Graveriau; Chrysanthemums by M. Lionnet, and there were other good exhibits.

Schomburgkia-Cattleya.—At the last meeting of the Société Nationale d'Horticulture de France M. Dallemagne, of Rambouillet, staged a new and interesting Orchid, a hybrid between *Schomburgkia tibicinis* and *Cattleya Mossiae*, and which he has named *Schomburgkia-Cattleya striata* ×.

The habit of the plant is intermediate; the pseudo-bulbs are rather short, swollen and striped, and bear two leaves at the summit; the flower-stem is rather short, and bears five flowers. These flowers are very large, at least as large as those of *C. Mossiae*, the petals and sepals are not wider than those of *Schomburgkia*, and are rolled round like those of *Cypripedium Parishii*, they are of a fine bright red colour tinged with magenta; the lip recalls strongly that of *Schomburgkia*, but the lateral lobes enclose the column, the base is white, and the anterior lobe is bright red. I believe it to be the first hybrid obtained between a *Schomburgkia* and a *Cattleya*. G.

The Week's Work.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Odontoglossums.—Since the introduction of leaf-soil into the compost used for *Odontoglossums* there has been a marked improvement throughout the country in the quality of the flower-spikes produced and in the health of the plants in general. Yet some growers still stick hard and fast to the old compost of peat and sphagnum-moss, and no doubt obtain favourable results. It is also true that large quantities of *Odontoglossums* are killed yearly through being potted in fine leaf-soil and carelessly watered by inexperienced men. At Westonbirt, leaf-soil has been used in the potting mixtures for the last two years with very satisfactory results, the quality of the flower-spikes produced being much superior to those produced in the old compost.

Potting the Plants.—The present month is without question the most suitable time for the general overhauling of such plants as *O. crispum*, *O. Pescatorei*, *O. triumphans*, *O. Halli*, *O. luteo-purpureum*, &c., for at this season the majority of the plants have started well into growth, and will therefore quickly make new roots, which will take hold of the rooting medium now afforded them. But there are always some plants that remain dormant longer than others, and these may not be ready for potting until early spring. Leaf-soil should be used as follows:—Good Oak-leaves or Belgian leaf-soil two-fifths, turfy peat two-fifths, clean chopped sphagnum-moss one-fifth, adding a good sprinkling of silver-sand and finely broken crocks. Let the material be well mixed together, and use it in as rough a state as possible. Over-potting must be avoided with strictest care. It is a mistake to put a plant into a pot large enough to accommodate it for two or three seasons' growth. Select smaller pots that will afford room sufficient for the extension of the roots in one season, and when these have become filled with roots, shift on the plants without disturbing the ball. If the repotting be done in this manner, affording water is not so difficult or dangerous during the winter months, as the rooting medium dries much quicker. Such plants may be potted on for two or three seasons as the pots become filled with roots, but after this time it will be best to shake the plants out, cleaning away all old material from the roots and removing

old useless pseudo-bulbs. The plants should then be started again in small pots as before. Before re-potting put a layer of bracken-roots or clean crocks in the bottom of each pot for drainage, and in the course of potting press the material moderately firm about the roots. Keep the base of the plants on a level with the rim of the pot, and cover the surface with a neat layer of fresh sphagnum moss. After the operation the usual care will be needed in regard to watering, and special attention must be given to keeping the atmosphere sweet and moist by careful damping and ventilating. Prevent cold draughts, and whenever the weather permits spray the plants over-head with water.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq. Dropmore, Maidenhead.

Gooseberry and Currant Bushes.—It is a good practice to thin the growths of the present season; and if the bushes were disbudded in the spring, very little will need removal at the present time. The case is different if the shoots were allowed to grow unchecked, and the free-growing varieties will have formed thickets of shoots. In this case let all the small, twiggy growths be removed entirely, and the stronger ones thinned out, but leaving a sufficient number to allow of a final thinning being carried out in the spring. Black Currants do not make so much wood as the red and white varieties; but in the case of young and vigorous bushes it will be well to go over them, removing badly-placed shoots.

Cordons of Gooseberries and Currants trained on north walls should have the nets removed as soon as all the fruits have been gathered, the shoots being then thinned, as advised in the case of bushes. The weather is now much drier, in the south of England at least, and gardeners have been enabled to ply the hoe in keeping down the weeds. Experience has taught me that the hoe is an important tool in the cultivation of hardy fruit, the growth of the roots of fruit-trees being encouraged by the surface of the soil having a fine tilth, and they derive more benefit from manure when this is applied to the surface than by digging it in after the trees are planted.

Hints on Work in General.—Such early varieties of culinary Apples as Grenadier, Lord Grosvenor, and Keswick Codlin, are now fit to gather, and in so doing go over the trees several times, gathering only those that will part readily from the shoots by a slight upward movement. Stored in a cool room these early varieties will keep sound for some weeks, and with the short crop of many late kinds they will prolong the season. Where the gardener is fortunate enough to have a crop of Williams' Bon Chrétien Pear, a few fruits should be gathered at short intervals and placed in a cool vinery to ripen.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

The Plant Stove.—As the season wanes, less shade and moisture should be afforded in this structure, so that the growth of the plants may become harder before winter. Such plants as *Allamanda*, *Stephanotis*, *Clerodendron*, *Bougainvillea*, *Gloriosa*, that are passing out of flower, may be afforded less water at the roots, and be placed at the cooler end of the house if it be convenient to remove them. If painting is to be done to the interior of the house, September is a good month to undertake the work, as the plants may with safety be taken to unheated houses and pits for a few weeks. In any case the glass and wood-work should be well washed down with warm soapy-water, as filth always accumulates where much heat and moisture are employed. Let all the plants be cleaned and the pots scrubbed before returning them to the house.

Euphorbias.—*E. pulcherrima* and *Jacquinaeflora* standing in cold pits or frames must soon be transferred to a slightly warmer atmosphere, or they will be liable to lose their bottom leaves; and be careful not to over-water them. Both species require to be stood near the glass-roof, the latter doing best when the growths are

trained to pieces of string or wire. A night temperature of 60°, with plenty of ventilation during bright days, will be suitable, and no shade whatever need now be afforded them. If stimulants be given, let the application be weak, or it will injure the roots.

Schizanthus.—These are very showy subjects for the greenhouse during early spring, especially the newer strain "Wisetonensis." Sow seeds in pans of light sandy soil in a cool structure and afford shade until the seedlings are through the soil. Prick them off as soon as they are ready into 48-size and small 32-size pots, in which they will flower. The compost may consist of turfy-loam and a little leaf-mould and manure, with a sprinkling of sand. Place three and five plants respectively in each pot, apply water and shade for a few days. When the plants have become established stand them on a shelf in a freely ventilated house. The growths will need to be supported by neat stakes. Early in February a little feeding may be commenced.

General Work.—The time is fast approaching when fire-heat will have to be employed, if not to keep out frost, to dispel damp, therefore examine the heating apparatus, replacing with new any parts that may have become useless. Have all flues and chimneys swept, and the boilers and water-pipes emptied of all sediment, which, if left in them year after year, tends to corrode the iron and prevents the free circulation of water.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

The Backward Season.—The present year has not been a good one for flower gardening, most plants being late in blooming, the result of cold nights almost throughout the summer, as well as sunless days. Of rain, we have had no excess at Shipley. It is a pleasing fact that the weather conditions have not affected injuriously the later-flowering Michaelmas Daisies, Rudbeckias, Pyrethrum uliginosum, and some other late autumn-flowering plants; and given a fine September, the display will be excellent. A few of the earlier-flowering herbaceous perennials have been retarded by the weather. Aster amellus is just now opening its flowers; Rudbeckia Newmanni is in its first flush of bloom; and the shrubby Phloxes raised from cuttings are now affording a nice display, in succession to the old stools, which are past their best. In spite of the backwardness of many kinds of plants, there are some marked successes to record, notably Violas, which have flowered freely, and still continue to flower. A few of the best that I grow are Mrs. C. F. Gordon, Acushla, Pembroke, Bridegroom (an improved Isobel), and Diana. The last-mentioned is, and has been, very fine, and has proved itself a most useful bedding Viola, large flowers, habit good, and in the mass forming a cloud of delicate mauve colour. Many of the early-flowering Chrysanthemums will be late, and in some cases they will probably scarcely reach their best this year; but the Marie Masse varieties, the small-flowered yellow Flora, and Market White are all that one could wish, being clean in growth and adorned with numerous flowers and flowers-buds. Sweet Peas have been fine and the flowers extra large, the recent rains giving them a new lease of life. Carnations have been good, and they are still in flower. The buds of Liliun auratum have suffered much from the weather, and the flowers are not really good; L. a. platyphyllum is the best form out-doors. Tuberous-rooted Begonias, which form good contrasts with zonal Pelargoniums, are now at their best, the rains not injuring them; Lobelia cardinalis has done well, and the variety Firefly has again shown its superiority to L. c. Queen Victoria. Montbretias are fine; and Pentstemons, as might be expected in such a cool season, are very fine.

Ground Work.—Where the planting of beds with herbaceous perennials is contemplated and the ground is cleared, it will be advisable to double dig it after applying a good dressing of manure under each spit. Ground dug now will have time to settle before the planting is undertaken. Land for Carnation-beds and plots

should now be dug, a small quantity of manure or bone-meal being dug in; the former one spit deep, and the latter stirred into the newly turned up soil. Lime too should be applied if the soil is deficient in this constituent, and charred earth is another useful ingredient effective for securing healthy growth in the plants.

Work in General.—Continue the propagation of bedding-plants. Pot up zonal Pelargoniums struck in the open ground; examine tuberous-rooted Begonias, and mark those that have not made good growth. Bought-in tubers are diverse in habit, and those which show defects should not be kept. Take a general survey of flower-garden arrangements, and note all prospective alterations while these are fresh in the memory.

FRUITS UNDER GLASS.

By T. H. C.

Tomatos.—Apply to plants cropping heavily liquid-manure, or Le Fruitier artificial manure, sprinkled on the soil. If trained as cordons, remove side shoots before these attain to a large size, and shorten the foliage a little at a time when crowded. Top-dress plants in pots with a rich loamy compost whenever they show signs of exhaustion, supplementing this by regular supplies of plant-food. Let the atmosphere be buoyant, ventilating freely whenever the weather is favourable. A night temperature of 60°, and by day of 70° to 80°, with ventilation, is adequate where artificial heat is necessary to maintain the plants in a fruiting state. Plants raised in early summer, and now commencing to yield fruit, will, if grown on under cool conditions, be useful for early winter fruiting. Keep the plants growing strongly by affording them fertilisers, as advised for earlier-fruiting plants.

Melons.—The cold, sunless weather towards the end of last month hindered the growth of the latest-planted Melons, and much artificial heat has been necessary. The growth in consequence has been rather weak, and more susceptible to the attacks of insects. If aphides are troublesome, vaporise with XL-All compound, and for red-spider forcible syringings of tepid water or sponging the affected leaves may be resorted to. Apply tepid water only in small quantity till the roots have taken full possession of the beds. Syringe the plants in bright weather at closing time, allowing the temperature to rise with sun-heat to 90° or 95°. By artificial means a day temperature of 75° to 85°, and by night 70° may be afforded. Ventilate upon every favourable opportunity, and in bright weather frequently damp the paths, &c. Early July-raised plants are now swelling their fruits rapidly and will be much benefited by applications of liquid manure or sprinklings of Le Fruitier on the beds, immediately afterwards applying water. At this stage the ripening fruit sometimes splits at this season, therefore be cautious in applying water. Afford ripening fruit a night temperature of 70°, and by day 80° to 85°, with free ventilation and a dry atmosphere, with just enough moisture at the root to maintain the foliage in a fresh condition.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Spring and Early Summer Cabbages.—Preparations for this crop should be made as soon as possible, it being advisable to set out the plants in a small state in preference to allowing them to stand in a crowded seed-bed. Any open yet sheltered piece of land in the garden will suit this crop, provided it is well manured, deeply dug, and then made quite firm by trampling it. At Wexham Park the soil is light, and I have planted the Onion quarter and Strawberry beds with Cabbages without previous digging, only hoeing the land deeply, and drawing drills in which to set out the plants. Grown thus, Cabbages make a great number of fibrous roots, and are better enabled to withstand the severities of winter than those planted in loose soil, and it is an easy matter to apply fertilisers when needed. Plant-out the smaller-growing varieties at 18 to 24 inches between the rows, and those of larger growth at 24 to 30 inches, and at a distance of 9 to 12 inches respectively from plant to plant, so that: each

alternate plant in a row may be pulled up for use early in the spring. The plants should be made quite firm in the soil, and be afforded water, a small ring of finely-sifted coal-ashes being placed round each.

Spinach.—Make a large sowing on well-manured, deeply-dug ground, making it moderately firm before sowing the seeds, and applying a copious dressing of wood-ashes or charred, finely-sifted garden-refuse. Generally speaking, Spinach sown at this date may be relied upon to withstand the winter frosts; still it will be prudent to make another sowing. Continue to thin out earlier sowings, and to sprinkle the plants occasionally with fresh soot and wood-ashes, and to aerate the soil and destroy weeds by the use of the hoe.

Winter Onions.—Those that were sown last month being well advanced in growth should receive a good dressing of soot and wood-ashes, and when the soil is dry the land should be hoed occasionally. If not already done, let the harvesting of the spring-sown crop be finished forthwith, and store the bulbs when they are thoroughly dried.

Leeks.—Take advantage of fine weather to mould-up the plants; and, unless growing on very light land, do not afford them water at the root after this date.

Carrots.—Lift the early-sown Carrots, or many of them will split and become almost worthless; and store them in sand or coal-ashes in a cellar or other cool place. Thin out later sowings as soon as the plants have made a few true leaves, and ply the Dutch-hoe between the rows of plants.

Radishes.—Make a sowing of the French Breakfast Radish on a south border, where protection can be afforded when needed, or in cold frames, but not using the lights till frosty weather sets in. Protect the seeds from birds. Sow Mustard and Cress weekly in similar positions, covering the seeds with mats till germination has taken place. Lettuce and Endive may be tied up to blanch when the leaves are dry. Thin out late sowings, planting the thinnings at the foot of a south wall or near to the lights in cold frames.

THE APIARY.

By EXPERT.

The bees are still doing well and storing surplus, although I fear the honey flow has been very poor in a good many districts. Unfinished sections should still be closed to allow them to be properly filled if possible, care being taken to cover up carefully the empty space to prevent them building combs, and also to confine them to the sections. When the body-box is filled with honey and the bees strong, a few sections can be placed on, as these may keep the bees quiet. The entrances to all hives should be closed up a little to enable each stock to protect itself better in case of robbing. As soon as bees are noticed destroying the drones, it may be presumed the honey flow is over, and the entrances should be closed. Take away all honey as soon as it is removed from the hives, and all small pieces of comb with honey on it; and dividers with any honey however small on them should be covered or taken away. A mixture of carbolic acid should always be handy, one part of acid to five or six parts of water, for spraying the entrance as soon as robbing is noticed, or a tin of carbolic powder will answer the same purpose. Sections that are partly filled, and that the bees are not likely to complete, should be extracted and placed on the hives for the bees to clear out, and when dry they may be taken off. The same applies to shallow frames. The grass should be kept short round the hives, particularly in the front, and dry quilts given when the old ones have become wet. Stocks which have not done well should be marked out for attention in the near future. Place a little beer and vinegar about the apiary to entice moths and wasps; a long-necked bottle is a good death-trap for them if half filled. Wax-moth should be noted and every one destroyed, and when hives have got very bad they should be transferred to another hive, and each frame well cleansed.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, SEPT. 15.	Royal Horticultural Society's Committee Meet. Lecture on "Edible Fungi." National Dahlia Society's Floral Committee Meeting at Drill Hall.
FRIDAY, SEPT. 18.	Horticultural Show at Gothenburg, Sweden (five days).

SALES FOR THE WEEK.

MONDAY to FRIDAY NEXT—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.
 MONDAY NEXT, SEPT. 14—Trade Sale of Pot Plants at Dyson's Lane Nurseries, Upper Edmonton, by Protheroe & Morris, at 11.
 TUESDAY NEXT, SEPT. 15—Trade Sale of Winter Blooming Heaths at Burnt Ash Road Nurseries, Lee, by Protheroe & Morris, at 11.
 WEDNESDAY, SEPT. 16—Trade Sale of Winter Flowering Plants, at the Nurseries, South Woodford, by Protheroe & Morris, at 11.—L. Harrisli, Palm Seeds, &c., at 67 and 68 Cheapside, E.C., by Protheroe & Morris, at 4.
 THURSDAY, SEPT. 17—Sale of Stove and Greenhouse Plants, &c., at the Brimsdown Nurseries, Green Street, Enfield Highway, by Protheroe & Morris at 11.—Trade Sale of Winter Blooming Heaths, at Longlands Nurseries, Sidcup, by Protheroe and Morris, at 11.
 FRIDAY, SEPT. 18—Clearance Sale of Nursery Stock at Green's Nursery, Staines Road, Hounslow, by Protheroe and Morris, at 12.—Orchids at 67 and 68 Cheapside, E.C., by Protheroe and Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —58.7°.

ACTUAL TEMPERATURES:—

LONDON.—Sept. 9 (6 P.M.): Max. 67°; Min. 50°.

Sept. 10.—Overcast, noon; 62°.

PROVINCES.—Sept. 9 (6 P.M.): Max. 61°, Hastings; Min. 46°, Aberdeen.

Old Age in Plants.

We take from a recent number of the *Bulletins d'Arboriculture* the following remarks by M.

JULES BURVENICH on old age in plants:—

A paper published at Prague, and entitled *Bohemia*, contains the following remarks concerning certain analogies between animal and vegetable organisms:—

"Certain plants increase by offsets; this method of propagation is also found in certain animals of low organisation, portions of which, when completely detached, become perfect individuals.

"In Germany an important fact has lately been discovered. All the Lombardy Poplars in the country are descendants from a single male specimen imported from the East, which is still in existence in the Wörlitz Park. Offsets from this tree were distributed, so that all the Lombardy Poplars in Italy and Germany are, as it were, like one huge individual specimen divided into several thousand portions. It is said that all the Italian Poplars are becoming unhealthy, and gradually dying.

"Dr. OCHSENIUS conjectures, probably correctly, that the cause of this phenomenon is that all these Poplars, forming, as was before said, a single organism, are consequently now all old, and showing every indication of approaching death.

"Professor WITT remarks a similar phenomenon in the decadence of the well-known Rose La France. It has, he says, been noticed in Germany for several

years that this Rose has become stunted in growth, and its price enhanced. In the environs of Frankfort rosarians are suffering considerable loss, as, in spite of their utmost care, plants of this variety of Rose are perishing, while other sorts are doing wonderfully well. Some growers have even tried, and with success, to replace this variety when grown wholesale with another that closely resembles it.

"It would be useless to seek the cause of this general failure in the composition of the soil or the presence of vegetable or animal parasites; it seems more correct to regard this condition, not as disease properly so called, but as due to the 'weakness of age,' it having been sent out in 1867.

"These facts are not surprising, remarks M. JULES BURVENICH, as they are frequently demonstrated in the cultivation of other plants, raised, not from seed, but from buds, layers, grafts, or suckers. It is owing to this degeneration in plants propagated thus artificially that sooner or later it becomes essential to have recourse to seed in order to obtain new stock or to recover varieties already obtained from their 'weakness of age.' This condition of things is evident, for instance, in the case of the Potato, in that of Strawberries, and of fruit-trees in general."

We do not know how far our readers will agree with these statements. We can understand the death of old cells worn out from various causes; but all the time the protoplasm is healthy and the cells retain the power of multiplying their number, there is no reason, other things being equal, why the life of the plant should not be prolonged indefinitely.

ROYAL HORTICULTURAL SOCIETY.—EXHIBITION OF EDIBLE FUNGI.—On Tuesday, Sept. 15, an Educational Exhibition of Edible Fungi will be held in the Drill Hall, Buckingham Gate, Westminster, 1—5 P.M.; and an illustrated lecture upon them will be given by Dr. M. C. COOKE, M.A., V.M.H., at 3 o'clock. All interested in extending or acquiring knowledge of the edible species are invited to send collections. Collections should, if sent, be delivered at the Drill Hall on Monday afternoon, Sept. 14; or, if brought, they should arrive at or before 9 A.M. on the Tuesday, so that they may be properly grouped and arranged by the Fungus specialists. Intimation of an intention to exhibit should, if possible, be sent a few days before to the Secretary, Royal Horticultural Society Office, 117, Victoria Street, Westminster, S.W.

—FRUIT AND VEGETABLE SHOW AT CHISWICK, SEPTEMBER 29, 30, and OCTOBER 1.—*Alteration in Schedule.*—The prizes offered in Class 52 for Apple "Charles Ross" will be open to nurserymen and market-growers, as well as to gardeners and amateurs (see Division V., p. 24). Intending exhibitors at this show can obtain a copy of the schedule, with the official entry form, on application to the Secretary, Royal Horticultural Society, 117, Victoria Street, S.W. Entries for this show close on Tuesday, September 22.

—At a general meeting of the Royal Horticultural Society held on Tuesday, September 1, twenty-two new Fellows were elected, making a total of 1,117 elected since the beginning of the present year.

NATIONAL ROSE SOCIETY.—We are informed that a special meeting of the Committee will be held at the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Tuesday the 15th inst., at 3 P.M. EDWARD

MAWLEY, Hon. Secretary. "AGENDA: For the purpose of deciding on the date of the Metropolitan Show in 1904, and also where it shall be held. The attendance of members is earnestly requested."

THE GARDENERS' DINNER.—We have been asked to correct an impression which seems to prevail amongst foremen and under gardeners, that they are not eligible to attend the Gardeners' Dinner on September 29. That is not the case. All engaged in horticulture will be (with tickets) cordially welcomed. The Committee wish it to be known that any purchaser of tickets wishing to have parties of friends seated together, should send his name and the number of the party several days prior to the dinner, when the Dinner Committee will do their best then to arrange seats as desired. It should also be made known that no tickets can be issued later than September 25, by which date also all payments must have been made to the Secretary, Mr. A. Dean, Kingston-on-Thames.

THE NATIONAL DAHLIA SOCIETY.—We are informed by the Secretary, Mr. P. W. TULLOCH, that, by permission of the Royal Horticultural Society, an inspection by the Committee of the National Dahlia Society of the Cactus Dahlias grown for trial at Chiswick will be held at Chiswick Gardens on September 17, at 2 P.M. A prize of 10s. 6d., the gift of Mr. A. DEAN, will be awarded to the raiser of the best variety for garden decoration.

GLADIOLUS FROM RAMSGATE.—Mr. W. C. Bull, of Ramsgate, who raised the white variety Nymph, illustrated in our last issue, writes—"I am sending a few spikes of my seedling Gladioli. I have been working on these for many years, especially on the white and yellow shades, with a view of getting a strain possessing, 1st, vigorous constitution and habit; 2nd, purity of colour, both in self and bizarre varieties; 3rd, a type of flower of compact strong shape, which will stand rough weather and come true to colour and form without any shading or codling. The introduction of the characteristics of Gladiolus Saundersi, will, I am sure, lead to great results, but several of its bad points, such as the weak peduncle, loosely built floppy flowers, and irregular order of their opening in the spike, will have to be eliminated. I find also an increasing tendency for the normally mono-symmetrical flowers to become regular with actinomorphic symmetry, the flowers pointing upwards—a weak characteristic, as they weather badly, filling up with rain. I have, in fact, some seedlings which resemble more in their individual pips a Lapageria than a Gladiolus. They are very lovely all the same when cut and arranged in a vase placed on a low table so that the flowers are looked down upon. I have in view also a strain of very dwarf and compact Gladioli of the Gandavensis type, especially good for cutting for filling the ordinary-sized table or mantelpiece vase, about 20 inches to 2 feet high, of bright and pure colours, free from the harsh contrasts of colour and hooded form of flower found in many of the dwarf Lemoinei section. I think there is room for such a strain, and hope in a season or two to have a fairly numerous collection of these little 'Lilliputs.'" Our correspondent sends a very interesting lot of flowers, and we shall look forward with pleasure to witness future developments.

FLOWERS IN SEASON.—We have received from Messrs. W. WATSON & SONS, nurserymen, Clontarf, Dublin, some flowers of a pretty fancy self Carnation, Mrs. Lora Armstrong, for which they have received the Certificate of the Royal Horticultural Society of Ireland, on their showing the variety on August 25, and an Award of Merit at Glasgow on the 2nd inst. It was raised by Mr. DOWLING, gr. to Mrs. L. ARMSTRONG, of

Hollywood, Carrickmines, from whose employer Messrs. WATSON have purchased the entire stock of this variety. The colour is salmon-pink, and the flower has stout, erect stems, and does not burst its calyx.

THE FRUIT FAMINE IN PERSHORE AND EVESHAM.—In several of the villages surrounding Pershore and Evesham, the inhabitants, says a contemporary, are on the verge of bankruptcy owing to the failure of the fruit crop. Thousands of acres of land are wholly devoted to the cultivation of the Pershore Yellow Plum, which at this time of the year is in great demand for jam-making. The oldest residents do not remember a more disastrous season. One fruit-grower states that in an average season he sells from 15,000 to 18,000 pots of Plums, a pot containing 72 lb. This year, although he has been far more fortunate than his neighbours, owing to several of his orchards being in sheltered positions, he estimates he will only gather one-tenth of that quantity. The manager of a jam factory reports that he will not gather a single pot from his orchard, while an Evesham firm, who are growers and salesmen, expect to gather only from four to five pots from an orchard which last year yielded over 1,500 pots. The small growers, and each village contains twenty to thirty at least, had a very indifferent season last year, and they began this year in debt, but hoped to tide over their difficulties with the September sales. Ninety-nine per cent. of them, however, have not gathered a single pot of Plums. The price has gone up by 300 to 400 per cent. In 1901 Plums were so plentiful that a pot could be purchased for 1s., and last year at from 5s. to 8s., while only this week purchasers willingly paid 15s. to 16s. per pot for good fruit.

"BOTANICAL MAGAZINE."—The September number is noteworthy, amongst other things, for its wrapper, whereon Mr. W. B. HEMSLEY's name appears as assisting Sir JOSEPH HOOKER. Mr. HEMSLEY's long association with Kew, his practical knowledge of garden plants, his vast knowledge and experience, render him eminently fitted to assist the revered Editor. The plants figured in the present number are:—

Senecio tanguticus, of Maximowicz, tab. 7,912.—A Chinese species of large dimensions (6 to 7 feet), deeply-cut leaves, and many-flowered pyramidal panicles. The flower-heads contain only a few yellow flowers. The seeds were sent home by Mr. WILSON, and the plants flowered at Coombe Wood, in the nursery of Messrs. JAMES VEITCH & SONS.

Dialea Gilliesii, Hooker & Arnott, tab. 7,913.—A white-flowered Chilean Crucifer, having much the appearance of *Arabis alpina*. Kew.

Iris bucharica, Foster, in *Gardeners' Chronicle*, 1902, i., fig. 135. Kew.

Aloe Cameroni, Hemsley, tab. 7,915.—A handsome caulescent species, with sinuate, toothed leaves, and long spikes of pendent, cylindric, red flowers tipped with green. A native of eastern tropical Africa, flowered at Kew.

Psychotria capensis, Valke, tab. 7,916.—A South African shrub, with opposite subsessile, obovate-oblong leaves, tapering to the base, and terminal panicles, and cymes of small yellow flowers. Nat. order Rubiaceae. Kew.

"THE ORCHID HUNT."—"In the story that forms the basis of the plot of 'The Orchid Hunt,' now being rehearsed for the opening of the new Gaiety Theatre," says the *Daily Mail*, "an Orchid will lead to complications as varied if not so serious as those that followed the missing letter in 'A Scrap of Paper.' The opening act is laid in Kew Gardens, where a school for the study of the history and cultivation of Orchids is in session. The rivalry of two amateur cultivators of Orchids—a great English statesman and the French Minister for Foreign Affairs—leads to a

wager as to which of them shall secure the most perfect specimen of the plant. Messengers are sent to Peru to search for something of great beauty, and fortune appears to favour England until the wiles of a pretty French girl [enable her to] secure the prize. With this she lands at Nice, where the second act takes place. In the end, however, a humble and amusing English gardener—to be impersonated by Mr. EDMUND PAYNE—produces a still finer specimen that he has quietly grown at Kew."

STOCK-TAKING: AUGUST.—Notwithstanding the drawbacks caused by general unrest on the Continent of Europe, the Trade Returns for the past month are of a satisfactory nature. The imports show an increase of £2,348,885 on the month of August last year, the figures being £42,761,456 against £40,412,571. There were great increases in sugar, raw and refined, accompanied by a rise in Tea and Wheat—got well in front from all quarters excepting the United States. In all articles of food apart from the above there were many variations, and a large falling off has to be recorded in tobacco. The following summary table will be found of interest:—

IMPORTS.	1902.	1903.	Difference.
	£	£	£
Articles of food and drink—duty free	9,981,747	9,398,280	—583,467
Articles of food & drink—dutiable	8,045,460	9,880,051	+1,834,591
All other Imports...	22,385,364	13,383,125	+9,002,239

One result of the new arrangement in sugar, it should be noted, is the raising of the prices to the British consumer—jam, of course, having gone up; whilst the prices to the Continental growers have been lowered very considerably. Referring to Tea, our German friends are developing the cultivation of the plant in the Cameroons, whilst the Russian growers record a success. In respect to the imports of timber, they were for last month £3,661,579, against £3,621,221 for the same period last year—a gain of £40,358. By the way, it may be noted that our trade with Honduras is decreasing, the year's figures for mahogany and cedar showing that the United States have taken up the tale, their requirements being more easily and cheaply met than are those of our own timber-merchants. In the section devoted to fruit and vegetables there is a sorry story to relate, as in the following table:—

IMPORTS.	1902.	1903.	Difference.
	Cwt.	Cwt.	Cwt.
Fruits, raw—			
Apples	40,659	148,271	+107,612
Apricots and Peaches	3,345	1,630	—1,715
Bananas ... bunches	227,641	357,398	+129,757
Cherries	6,940	3,611	—3,329
Currants	13,982	13,598	—384
Gooseberries	2,513	383	—2,130
Grapes	101,852	117,432	+15,580
Lemons	68,872	68,752	—120
Nuts—Almonds ...	5,751	3,672	—2,079
Others used as fruit	27,600	29,417	+1,817
Oranges	9,075	24,890	+15,815
Pears	140,562	78,527	—62,035
Plums	269,910	187,750	—82,160
Strawberries	732	18	—714
Unenumerated ...	181,373	289,775	+108,402
Vegetables, raw—			
Onions ... ..bush.	833,745	738,537	—95,208
Potatoes ... ..cwt.	219,170	256,811	+37,641
Tomatoes	111,353	126,164	+14,811
Vegetables, raw, unenumerated ...value	£29,716	£28,458	—£1,258

Note must be made of the enormous amount of bad fruit forwarded to the London market from Hamburg, especially Plums. Much has been seized

by inspectors and condemned—there is more to follow. Large quantities of Apples have come from Germany, in barrels and bags; our friends over the Atlantic are pushing on their stores; possibly we may have some new jams on sale shortly. The general imports for the past eight months foot up at some £348,819,362, against £347,172,166 for the same period last year—a difference of £1,647,196. We note the following respecting—

EXPORTS.

which are placed at £25,664,884, against £24,299,826 for the same period last year—an increase of £1,365,058. The increase is pretty evenly spread over a variety of articles, and many lands. Textiles are in favour in the Far East—India, China, &c. The trade for the eight months shows an increase of £8,358,484; the figures vary, for 1902, £185,704,570; 1903, £194,063,054. Gauging the flow of imports by the increase in exports, the above results are satisfactory.

GERMAN PLUMS TO THE RESCUE.—The fate of our English Plums is too well known to require elaboration—they are gone, and in their place have come to market large quantities grown in Germany, unfortunately not always of a high character, as might have been observed at the Southwark Police Court on Saturday last, when the magistrate, after viewing the semi-putrid fruit, condemned four lots as unfit for food under any guise. The chief inspector of the Bermondsey Borough Council Sanitary Department reported the seizure of the fruit, and the magistrate went outside to scan three van-loads of Plums from Hamburg; 185 half-sieve baskets were the receptacles used, and jam was the proposed product. The magistrate, as in duty bound, condemned the fruit, and ordered it to be destroyed. Perhaps there was overmuch hurry in packing and forwarding the fruit to market.

GIFT TO THE BRUSSELS BOTANIC GARDEN.

—The COUNT DE KERCHOVE DE DENTERGHEM, who is well known to our readers as President of the *Société Royale d'Agriculture et de Botanique de Gand*, and who was recently appointed President of the *Conseil de Surveillance* of the Brussels Botanic Garden, has presented to that establishment a very fine collection of Ferns, comprising more than 125 species. The garden was already very rich in Ferns, and the generous gift of the new President is much appreciated.

DISFIGURED RAILWAY EMBANKMENT.—A contemporary says that "at Abbots Ripton, on the Great Northern Railway, a platelayer has cut the Gorse bushes growing on the sloping banks into the shapes of garden chairs, peacocks, dogs, and other devices. The effect proved so pleasing that the Company have men now employed in trimming the Gorse or Whitethorn growing on the embankments into many fantastic forms." This, if true, would be most calamitous; but we are pleased to reflect that it is hardly likely that a great railway company will spend the shareholders' money in destroying the beauty of its own property.

SMALL FRUIT IN GREAT BRITAIN.—A preliminary statement has been issued concerning the agricultural returns of Great Britain for 1903, and from this we take the following statistics concerning small fruit:—acres under cultivation, 76,152 in 1903, 75,378 in 1902, being an increase of 774 acres, or 1.0 per cent.

PLANT PORTRAITS.

PLUM DES BURETTES.—A Belgium Plum, ova with a deep suture, green spotted with red. M. Burvenich classes it with Reine Claude. *Bulletins d'Arboriculture*, &c., August.

CODIUM M. LOUIS FOURNIER.—A handsome "Croton" with leaves tapering at the base, and dividing above the middle into three lanceolate lobes, dark green heavily spotted with crimson near the centre. *Revue Horticole*, August 16.

RASPBERRY CONDOR.

(FIG. 75.)

EARLY in August last, Mr. Pyne, of the Denver Nurseries, Topsham, Devonshire, sent for our inspection some trusses of his new seedling Raspberry, and an illustration of a spray of the same, carrying about one dozen fruits. It is a cross between Red Antwerp and Superlative, and the plant continues to fruit till the middle of August. In our remarks upon the fruit sent we drew attention to its acidity (see *Gardeners' Chronicle*, August 1, 1903, p. 82), which comment Mr. Pyne stated in a later communication was misleading. Probably this attribute, which was certainly noticeable, was due in this instance to lack of sunshine during the ripening period.

HOME CORRESPONDENCE.

ASPARAGUS.—In the *Gardeners' Chronicle* for June 27, under "Answers to Correspondents," a correspondent, "W. P.," who had "Asparagus dying after being seven years planted," was told by the Editor that the roots sent showed signs of having been taken out of a waterlogged soil. I had the same experience some ten years ago, and concluded, after experiments, that it was caused by dressing the beds in autumn with manure and allowing it to remain on the beds till spring. This is a general practice, but it will not do here, as the manure keeps the soil wet and sour, and the Asparagus rots away. Since discontinuing the practice I have done nothing to the beds in Autumn beyond clearing away the old growths when ripe, leaving the beds quite bare all winter. In spring I topdress the beds with wood ashes, leaf-soil, and sand, affording a little artificial manure in showery weather during the summer, and I have as good Asparagus as one could wish. Should "W. P." see this note, I would advise him to try this treatment. *Wm. W., N.B.*

LATE-FLOWERING APPLES.—From many years' observation I have found, speaking generally, that it is those which flower earliest that bear the most regularly; and this year it is no exception. Do what we may, we cannot alter the conditions of the weather, and I fear, after experimenting for many years on late-flowering varieties, we shall not improve upon those we at present possess. Royal Jubilee is the most vigorous late-flowering Apple, but it bears but few fruits this year. *George Bunyard.*

POLYGALA VULGARIS, WHITE VARIETY (see p. 179).—It was on a hot summer day—ah me! years ago—that I first came across the white form of *Polygala vulgaris* at Wootton, North Staffordshire. It is frequently to be met with there. This place, with its entrancing outlook, is associated with the name of J. Jacques Rousseau; it was here that he botanised, and here he wrote a portion of his *Confessions*. At Diminsdale, not far away, I have found specimens of the Winter Green, *Pyrola media*. Another uncommon British plant is the little plain May Lily, *Maianthemum convallaria*; this also occurs in the same neighbourhood. In the ditches by the roadside—

"All upon the Cauldon Lowe
Geum rivale abounds."

In fact, these high lands—

"Upon whose breast
The labouring clouds do often rest,"

have, from a time whereof the memory of man runneth not to the contrary, formed a happy hunting-ground for the enthusiastic British botanist. *Mary Adams, September 6, 1903.*

— I have frequently found the white form of *Polygala vulgaris* (Milkwort) in South Berkshire and Sussex. I have also found it with blue, purple, pink, and white veined with pink, or purple flowers. The Rev. — Johns in *Flowers of the Field*, speaks of it as having blue, pink, or white flowers. I also know a field near Newbury

(Berks) where the Cinquefoil (*Potentilla reptans*) occurs with double flowers every year. *Frank Gammon, Buxted Park Gardens, Uckfield, Sussex.*

JUDGING CACTUS DAHLIAS.—When reading your report of the lecture on judging Cactus Dahlias, I noticed that "habit" was not considered a point in judging a flower for an award. We find in business one of the first things a buyer asks is, "Does it throw its flower well up above the foliage?" For many of the flowers put on the table for awards on Tuesday, Sept. 1, were sorts that flower in the bush, as one could see by the manner they had been stopped down into 1 inch diameter wood. This is the great fault of many—a fault inherited from the parent of the race, Yuarezi. Then, as to regulating or fixing 6 inches as the maximum size, this seems quite absurd; it would be as bad as refusing an award to a large Carnation or hybrid Orchid. There is room for flowers of all sizes. Nature is free, and has no rule to fix size; in her wisdom, she finds a place for the giant Lily and the humble Forget-me-Not. "One point" is suggested for setting up. Well, if the setting-up means torturing innocent flowers "in the stocks" as rigid as if they were cast in iron, as was the case at the Drill Hall, then I do not agree at all with their idea of setting-up. I take it that horticultural shows are for the



FIG. 75.—NEW RASPBERRY CONDOR.

purpose of popularising and encouraging the growth of flowers, and that the use of flowers is to beautify the garden and house. Are these metallic fixtures good for either? Could not the flowers be exhibited in a manner that might be used in the house, like the undressed Chrysanthemum in vases and the undressed Carnation? These shows should be to lead in taste, and to show how flowers can be best set-up for house or garden. Many now prefer the more natural methods; they have lost their taste for so much dressing and fixing and pulling out of petals. *John Pope, The Ericas, King's Norton, Worcester.*

OLD-TIME NAMES.—Dutch Admirals were an esteemed variety of Pea, and, according to Bradley (1718), not a reliable authority, must have been a very old variety, for he identifies it with the "Roncival," a variety that can be traced centuries back—"The Roncival or Egg Pea, which is also called the Dutch Admiral, is the most rampant of all the Pea kind"; and another authority says of it, "The Dutch Admiral and the Marrow Pea, which are most excellent, should not be sown till March or April, but require to be well supplied as affecting a superiority, and they reward the owner with plenty." "Winged Pea" is mentioned by the same writer as a vegetable, and it is described by Miller, ed. 8, as *Lotus tetragonolobus*, which later botanists appear to call *Tetragonolobus purpureus*. In Miller's time it was cultivated about London solely for its flowers, though he remarks that in some of the northern counties it continued to be eaten. "Cardus" is no

doubt a misspelling of *Carduus*, the *C. benedictus*. "The *Carduus*, sown in gardens for its virtue in physical uses, hath obtained the name of *Benedictus* or the Blessed Thistle." [Nicholson's *Dictionary of Gardening* gives the proper name of *Carduus* and *Cnicus* as "*Carbenia*."] "

— **THE BELVEDERE.**—A short note on this will be found in the *Gardeners' Chronicle* at p. 359, May 31, 1902. The plant is figured by Gerard, and is called "*Scoparia*, sive *Osyris græcorum*," and appears in the chapter on "The Tode Flax." Parkinson also figures it, and calls it "*Scoparia*, sive *Belvidere Italorum*." By Lyte it is called simply *Osyris*. *R. P. Brotherston.*

THE CHAMPION GRAPE CLASS AT SHREWSBURY.—Now that two great contests have taken place for the possession of the magnificent Cup given for this class, and as both contests have been fought under entirely different conditions, it is perhaps worth while bringing before your readers a few points bearing on the respective merits of these conditions. Being competitors in the Champion Grape class each year, except the first, I trust this criticism may not be taken as the wail of a disappointed exhibitor. Far from it. The judges, in our opinion, justly awarded the first place to Mr. Goodacre's exhibit, according to the standard of pointing they had to go by this year. Last year Mr. Shingler fairly won on the conditions then prevailing. Had the standard been the same last year as this, last year's 3rd prize exhibit (Mr. Lunt's) would have taken the Cup across the Border. Had the conditions this year been the same as last, the 2nd prize exhibit this year would have won, and the Cup off to Scotland. Puir auld Scotland! What with the King's title and this Will-o'-the-wisp Shrewsbury Cup, thy just rights are denied thee! Well, after all, it does not matter whether the Cup goes to Scotland or remains in England, what we all wish is that the best exhibit should win. There is little fear of its being otherwise if the conditions were on a fairer footing to all, and the Society retain the services of such straightforward and experienced point judges as they have so far employed. Many Grape-exhibitors are of the opinion that when such an important prize was given, contested for, and won the first time under certain conditions, these conditions ought not to have been changed until the Cup was won outright. No doubt the alteration was made by the Society in good faith and in the best interests of Grape-exhibiting. I hold that the reverse will be the case. What do we find? Last year ten exhibitors entered the field, three being from Scotland; this year only five entered, one only being from Scotland. Now if ever there was a competition which deserved to be of an international character and attract visitors from all parts of the kingdom, it is surely this one. The cup is the most handsome and valuable trophy in the horticultural world at the present time, not to speak of close on £50 in cash prizes. It would be a great pity if the competition was still further to decline, as I am afraid it will do. Not only so, but unless the conditions are founded on a fairer basis to all Grape growers, I am confident the competition will be confined to a few—less than the number of prizes offered, and the exhibits will dwindle down to the ordinary level of 2½-lb. bunches, which can be seen at any third-rate show in the kingdom. Surely the thousands who flock to Shrewsbury expect to see for so great a prize something exceptional in the way of Grape-growing—something greater than they can see at their own local shows! Until this year, the winner in the Champion Grape class was supposed to be the exhibitor who staged the twelve finest bunches showing the highest cultural skill on the part of the exhibitor, irrespective of variety. Now it is different; the man who cannot stage particular varieties has no chance. This is now entirely a Muscat class. To give an illustration: supposing an exhibitor staged twelve bunches, six of which were Muscat-flavoured, which is a fair proportion of the two sorts, and the judges, considering each bunch in this collection a perfect specimen, awarded them the full maximum of points: this would be a feat which the most ambitious cultivator need never hope to accomplish; but, for the sake of argument, let us suppose that such took place. Another exhibitor staged twelve bunches,

all Muscat-flavoured sorts. This lot, in the opinion of the judges, did not contain a single perfect bunch, but dropped on an average one point per bunch, or twelve points in all. Which of the two collections showed "superior cultivation" and "finish," which the schedule stated was to carry primary weight? Surely no competent judge but would say the first lot; yet with the present Shrewsbury standard of values it would not win. The alteration I would suggest in the conditions upon which the Cup has been competed for this year is, that all Muscat sorts remain as they are with a maximum of 11 points, but to include Black Hamburg, which should also be given 11; all others 10. This would then read, "A maximum of 11 points may be given to all Muscat-flavoured varieties, black or white, including Black Hamburg; a maximum of 10 points to all other varieties. Superior cultivation and finish will be considered of the greatest importance." The present stipulations in the schedule read, "A maximum of 11 points may be given to all Muscat-flavoured sorts; a maximum of 10 to Black Hamburg. All other varieties may receive a maximum of 9 points. Superior cultivation and finish will be considered of the greatest importance." If the alteration I have suggested were adopted, I am certain the interest would be sustained in this Champion Grape class. The exhibits would be more showy and imposing, and more competitors would come forward; for then the small grower who might be able to show a mixed lot, all showing very high cultivation, would have a chance of winning, which he has not at present. D. Buchanan, Forth Vineyard, August 29, 1903.

HUMEAS AND PEACHES.—What may be regarded as a very singular instance of harm to one plant arising from the juxtaposition of another, was seen at Lockinge Gardens recently. Mr. W. Fyfe had learned from Mr. Harris, who is Mr. A. MacKellar's intelligent foreman at Frogmore, of the assumed harm done to Peach trees in a house by placing in the same house a few plants of Humea elegans, the effect being within twenty-four hours to create a comparative withering or burning of the younger leaves of the Peach-trees, and in many cases causing them to fall. In other cases the effect was to produce in them small holes, or to render the leaves minutely perforated. Mr. Fyfe felt that the statement was of so unusual a kind that he resolved to test it, and placing a few 2-foot-high Humeas in a Peach-house, found in twenty-four hours exactly the same injurious results following their presence in the house that had been noticed at Frogmore. It does not seem as if Humeas affected injuriously any other plants, but the matter is well worthy of further inquiry. Seeing that there is no known affinity between the Humea and the Peach it is so difficult to understand in what way one should operate injuriously to the other. The natural assumption is, that at night, when the Peach-house is close shut, the Humea leaves exhale some offensive element that produces the harm; but what it may be scientific inquiry can alone determine. No doubt it is a matter for the laboratory rather than for surmise. Cases have been known, though rarely, when gardeners have suffered from handling the plants, as some others have done so from handling *Primula obconica*; but no one has heard of the latter doing any harm by contact or presence to other plants or vegetation. If anyone having both Humea plants and Peach-trees under glass choose to test this matter they can do so. To fully understand the cause of the injury would be indeed interesting. A. D.

AWARD OF MERIT FOR A MELON.—I should be glad if you would kindly give me your opinion on the following circumstance. Last year I had occasion to borrow a Melon for a house-party, which my neighbour had raised. I took a great fancy to the Melon when I saw it, and I therefore saved the seed—a fact which I mentioned to my neighbour when I next met him, and having a better house for early Melons than he has, I said I would try and get one in for York. He was quite willing that I should do so, but said he did not know if that seed would be true, but he would give me some which he knew would be. I

grew the Melon, and took one to York; but it was not ripe enough. I told him afterwards that if I got a good fruit I would send one up to the Fruit Committee; which I did, and gained an Award of Merit. He gave me liberty to do as I liked with it. I sent it as from the grower, not from the raiser. My neighbour now thinks that he ought to have had the Certificate. The Award or Certificate of Merit was made out in the name of my employer. I am fully informed by the Secretary of the Royal Horticultural Society whose it should be, but my friend does not seem satisfied. Who ought, under the circumstances, to have the Certificate? I should esteem it a great favour if you would publish these few remarks. *An Admirer of Melons.* [In the circumstances named, the Committee could not do otherwise than award the Certificate to the exhibitor. ED.]

LAW NOTES.

RATING APPEAL.

MESSRS. W. T. WARE, LTD., AND THE ASSESSMENT COMMITTEE OF THE BATH UNION.

A CASE of considerable importance to the trade has just been decided in connection with the assessment of a nursery at Englishcombe, in the occupation of the well-known firm of Messrs. Walter T. Ware, Ltd.

The original assessment for Poor Rate purposes of the nursery portion, including glasshouses, was £192, and this was subsequently increased to £340 5s. Messrs. Ware, Ltd., appealed to the Assessment Committee for an abatement, but without effect. Notice of appeal to the County Quarter Sessions was then given; but before the hearing came on it was arranged that the matter should be referred to Mr. J. B. Slade (Protheroe & Morris), of Cheapside, London, and Mr. W. T. Howes (Geo. Nichols, Howes, Young, Alder & Co.), of Bristol, as Arbitrators on behalf of the Appellant Company; and Mr. H. A. Castle (Castle & Castle), of London, and Mr. C. C. Spackman, of Bath, as arbitrators on behalf of the Union Assessment Committee. These gentlemen could not agree, and the matter was then referred to Mr. John Alderson Foote, K.C., the umpire appointed by them.

The case was heard at length by the umpire at the Surveyors' Institution, and he subsequently made an inspection of the property. Mr. Slade, who conducted the case on behalf of the appellants, was assisted by Mr. Howes; and Mr. Castle, acting for the Assessment Committee, by Mr. Spackman.

Mr. Slade's contention was that the letting value should be the basis of assessment, and the umpire took the view that the cost or assumed cost of the buildings could not be taken into consideration for rating purposes, but that the only question was what rent such buildings would command from year to year. The total amount of the net assessment appealed against was £369 10s., and this has been reduced by the umpire's award to £258 19s.

A comparison of the following figures will prove interesting:—

ASSESSMENT APPEALED AGAINST.

PARISH OF ENGLISHCOMBE.			
Area.	Description.	Gross rateable value.	Net rateable value.
A. R. P.	Dwelling-house and garden ...	£ 20 0 ...	£ 17 0
1 1 21	Buildings ...	30 0 ...	25 10
3 0 0	Glasshouses ...	260 0 ...	163 10
6 2 0	Land, rough banks ...	3 5 ...	3 0
25 3 17	Market garden ...	103 10 ...	101 0
1 0 35	Meadow ...	1 5 ...	1 15
14 0 0	" (Barrow Castle) ...	30 0 ...	29 5

PARISH OF TWERTON.

2 2 5	(Agricultural land (Smallcombe) ...	£ 8 15 ...	£ 8 10
		£166 15	£389 10

The valuer for the Assessment Committee furnished the following summary:—

PARISH OF ENGLISHCOMBE.

Area.	Description.	Gross rateable value.	Net rateable value.
A. R. P.	Land ...	£ 12 0 ...	£ 10 0
3 0 0	Buildings, plants, &c. ...	£60 0 ...	400 0
0 3 21	Land and garden, with buildings ...	...	...
	Buildings ...	48 0 ...	40 0
	House and garden ...	22 0 ...	18 0
24 2 5	Agricultural land ...	97 14 ...	92 16
8 0 27	Land ...	33 0 ...	31 7
	Buildings ...	9 0 ...	7 10
14 0 6	Land (Barrow Castle) ...	34 0 ...	32 5

PARISH OF TWERTON.

2 2 7	Land (Smallcombe) ...	£ 5 0 ...	£ 4 15
		£96 14	£636 13

In addition to which there was a small meadow of 1 acre 35 poles in the parish of Englishcombe, the assessment of which was agreed at £1 15s.

THE FIGURES FURNISHED BY MR. SLADE WERE AS FOLLOWS:—

PARISH OF ENGLISHCOMBE.

Area.	Description.	Gross rateable value.	Net rateable value.
A. R. P.	House, Buildings, and Land ...	30 0 ...	24 0
1 1 21	Glass ...	107 0 ...	71 0
2 1 20	Land on which Glass-houses are built ...	9 10 ...	9 0
34 0 32	Open Land and Meadow ...	51 10 ...	49 0
11 0 0	Meadow (Barrow Castle) ...	28 0 ...	27 0

PARISH OF TWERTON.

2 0 5	Land (Smallcombe) ...	3 0 ...	3 0
		£239 0 ...	£183 6

THE AWARD OF THE UMPIRE, MR. J. A. FOOTE, K.C.

PARISH OF ENGLISHCOMBE.

Description.	Net rateable value.
Dwelling House and Garden ...	£25 10
Buildings ...	17 0
Glasshouses ...	79 0
Land ...	104 0
Meadow ...	1 15
" (Barrow Castle) ...	27 14

PARISH OF TWERTON.

Land ...	4 0
	£259 19

being a reduction of £110 11s. in the net rateable value.

The Bath Union Assessment Committee to bear the costs of the reference and the Umpire's charges.

Mr. Isaac Williams was the solicitor for the Assessment Committee, and Messrs. Stone, King, and Thomas represented Messrs. Walter T. Ware & Co., Limited.

BANKRUPTCY CASE.

THE first meeting of the creditors of James Barnshaw, trading as J. W. Silver & Co., The Norbury Nurseries, Streatham, and residing at Woodbury, 361, London Road, Thornton Heath, took place on August 28, at the offices of the Official Receiver for the Croydon District, Railway Approach, London Bridge, S.E.

The statement of affairs filed by the debtor disclosed gross liabilities amounting to £895 18s. 3d., of which £844 6s. 11d. was expected to rank against the estate for dividend. The assets were returned at £737 10s. 4d., from which £51 11s. 4d. had to be deducted for the claims of preferential creditors payable in full, leaving the net assets at £685 19s., and disclosing a deficiency of £210 7s. 11d. The Official Receiver reported that the receiving order was made on the 5th inst., on the debtor's own petition, and an order has since been made adjudging him bankrupt.

The debtor stated that in September, 1894, he and his then partner, Mr. Joseph White, purchased the Norbury Nurseries, Streatham, for a sum of £2,500 (of which sum he stated he found

£500), and that they continued to trade, under the style of W. J. Silver & Co., up to about five years ago, when the partnership was dissolved, Mr. White being paid £250 for his share in the business, and from that time up to the date of the receiving order the debtor appeared to have carried on the business on his own account but under the same name as before. The debtor attributed his insolvency to business losses caused by the recent war in South Africa, to bad weather and floods, and living in excess of his income, and stated that he did not become aware of his insolvency until about six months ago.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

SEPTEMBER 1.—Present: Dr. Cooke, V.M.H., in the chair; and seven members.

Hippeastrum speciosum.—Col. TILLOTSON sent flowers of a plant sent from South America. The petals were of a pale clear green, passing into primrose, the stamens and pistil bright pink, and protruding far beyond the petals, which were almost closed at the apex of the flower. Though not very attractive in colour, it was thought it might be useful to breed from, on account of the great substance of the petals.

Raspberry, Wineberry, Blackberry Hybrids.—Mr. H. PEERMAN sent specimens of the foliage (the fruits had fallen off, and could not be identified) of three hybrids, Blackberry × Raspberry, Raspberry × Wineberry, Wineberry × Raspberry. They were considered most interesting, and he was requested to send again next year, each in a separate box, with both fruit and foliage.

Bud Formation.—Mr. J. ROBSON sent "a section from a young Sycamore exhibiting the extraordinary facility with which this tree develops woodbuds from the bark." The tree had been budded on the bare space between two leaves, and the bud had failed, but from the base of the incision the stock had sent out a growth "where no eye previously existed. I have twenty-five or more examples of the same thing in Sycamores, but though I have budded many subjects I have never noticed the same thing in any other genus."

Hippeastrum Blistered.—Dr. BONAVIA sent some leaves of *Hippeastrum* "covered with something that looked like scale, but which adheres so closely to the epidermis that it is difficult to remove." The scale-like blotches, on examination, proved to be not of insect formation at all, but blisters due probably to defective root-action, itself due to a check of some sort, such as cold or too much wet.

Cryptococcus on Weymouth Pine.—Mr. R. KNIGHT-BRUCE sent a specimen of bark literally swarming with the white woolly or waxy *Cryptococcus* which attacks Pines, and which, he says, is rapidly spreading, and killing plantations of the Weymouth Pine. The Committee considered the case almost hopeless, but suggested spraying the trees with a paraffin emulsion. Mr. Wilks said he had but little hope in spraying *Cryptococcus*, as, unless the sprayer was peculiarly strong and powerful, the fluid would not penetrate the downy wax with which the insect covers itself. He had known a case of a Beech-tree being saved by hand scrubbing with a brush, using soft-soap and paraffin emulsion; but he had never known spraying to be successful.

Discoloured Vine Leaves.—These were received from Mr. NEILD, of Holmes Chapel. Dr. COOKE reports:—"Vine-leaves with broad irregular patches of bright coloration have been known and observed for the past half-century. Sometimes the colour is yellow, or becoming brown, and sometimes reddish, or claret colour. In America it is known as the California Vine disease (see U.S.A. Reports of the Department of Agriculture, xx., 1892). This or a similar disease is known in Sicily as 'Folletage,' and in Italy as 'Mal Nero.' No satisfactory reason has yet been assigned for this affection, as no trace of fungi has been found, and there is no cause to suspect that fungi of any kind have anything to do with the discoloration. Leaves are constantly being submitted to the Scientific Committee for report as to the cause or remedy, but none can be given."

Floriferous Sweet Pea.—Mr. HUNT sent a flower-stalk of Sweet Pea having seven fine blossoms.

Proliferous Helianthus.—The Rev. C. WOLLEY-DOD, V.M.H., sent flower-heads of this, remarking that one particular plant in his garden always produces them; and that, as a rule, small secondary flowers grow out of the disc.

Campanula lactiflora, linear-leaved.—The Rev. WOLLEY-DOD sent a curious "abnormal" form of *C. latiflora*, "which comes in small percentage from the seed of the typical form, perhaps one in 200. The linear leaves can be recognised early in the seedling stage, and I never saw intermediate forms." Analogous forms with stellate flowers are not uncommon in *Campanula rotundifolia*, and De Candolle in his *Monograph of Campanula* figures and describes one on *Campanula Medium*, which he considered unique in the genus.

Silver leaf disease in Apples and Plums.—Mr. GAUT brought specimens from an orchard of 7 acres in Yorkshire. The soil is warp-land, varying in depth from 1 to 3 feet within short distances, and overlying clay. The drainage is good, with drain pipes. Shelter is afforded by the fruit-trees in the orchard. The altitude is nearly sea-level. The general culture has been to give a good dressing of farmyard-manure every four years and lime every few years. The trees had been planted ten years, and Silver-leaf appeared three years ago and it has got worse every year, and the trees affected in summer die the following year. The varieties affected are Victoria Plums, of which there are about 500 trees; and Lord Grosvenor Apple grafted on Keswick Codlin stock.

Mr. GAUT remarked that the matter was creating considerable interest in Yorkshire, and the soil had been analysed with the following result:—

The air-dried soil contains in 100 parts—	
Water	51.09 per cent.
Loss on ignition (organic matter, combined water, &c.)	5.09 "
Mineral matter	91.81 "
	100.00
Containing nitrogen	0.151 per cent.
Equal to ammonia	0.183 "

The soil was free from root fibres or any visible organic material.

It had been said by some experts that Silver-leaf was due to a lack of nitrogen in the soil, but the analysis seemed to show this could hardly be the case. Dr. Cooke said that the disease was so mysterious because he could find no spores or mycelium of fungus and no bacteria. He knew of no remedy, but advised cutting out the parts affected the moment the disease was seen and burning them. See also *Royal Horticultural Society's Journal*, vol. xxvii., pages 713, cxliii., and cxlix.

Rose-leaves Diseased.—Mr. J. W. SCOTT sent three bundles of Rose-leaves diseased. "No. 1. The plants are in good health, and at present there is but very little of the disease on them. No. 2 is taken from small pot plants spring grafted, and seems to develop those spots when grown in a high moist temperature. No. 3 appears to be like the last, attacking plants that are in a soft-growth, and we have it in several houses, in some cases stripping every leaf off the stem, but on taking the lights or glass off, the plants recover to a great extent."

Dr. COOKE pronounced the disease in each case to be *Actinonema roseæ*, called by growers the Black Mildew. It is a fungus disease very common all over Europe, and though it may be checked by Bordeaux-mixture, no actual remedy is known. It was considered to be greatly stimulated and encouraged by growing the plants too closely together without sufficient air and light, or in too humid an atmosphere. It is advised to dry the plants off and let all the leaves fall (which should be collected and burnt), and then induce them to make altogether fresh growth.

NATIONAL ROSE.

THE DATE OF THE METROPOLITAN EXHIBITION.

We have been requested to publish the following memorial to the Executive of the National Rose Society:—

"To the Honorary Secretary of the National Rose Society.

When, at the annual general meeting of the National Rose Society, held last December, it was decided by a majority of one to hold the Metropolitan exhibition in the gardens of the Inner Temple on July 1 in preference to July 8, some of us doubted the wisdom of the decision. A leading evening paper, in its report of the show, dated July 1, states: "The National Rose Show this year is an exhibition representative only of the Southern counties. The Midland and Northern counties will not be able to show for a fortnight or so. That the Southerner has had it all his own way will be seen by the record of the trophies and principal prizes." We may add to this, that in no instance was the

Southerner at his best. But even if he was, the compulsory absence of the Northern and Midland growers, not only in this, but in several years past, seriously challenges our Society to the name of National.

At the Metropolitan Exhibition is held the friendly contest for the championship of the year. This gives it an importance not possessed by any other Rose show. When this is held Roses should be at their best. Can it be maintained that Roses are at their best between July 1 and 4? Yet it is on these dates that the Metropolitan Show has been held six times during the last seven years.

It will be seen from the subjoined extracts from the Annual Reports, that in two years only out of seven was the Metropolitan Show a good one. The one in 1897, held on July 2, an abnormally early season, the other in 1900, on July 7, "the largest... yet held by the Society." On the other hand, the same reports affirm that the Northern Show held, with one exception, on dates ranging from July 15 to 19, was invariably a good one, four shows out of seven being described as "the best Rose show of the year."

We are, therefore, of opinion that the Metropolitan Exhibition is held on too early a date.

If it be pleaded that this exhibition should be held alternately early and late, we would reply that the latest date on which this show has hitherto been held is not late, but barely mid-season. And, mindful as we are of the large number of exhibitors residing south of London, we nevertheless think that the interests of individual exhibitors should be subservient to the interests of the National Rose Society as a whole; we desire that the public may see the Roses at their best, and that the Metropolitan Show may be recognised as the best Rose show of the year.

Distance from London militates against a representative gathering of rosarians at the annual general meeting. We therefore deprecate that the fixing of the date of this important exhibition should be left altogether to a chance majority of those attending and voting, and we ask that to "Regulations to Exhibitors" should be added these words, "The Metropolitan Show shall not be held earlier in the year than July 6."

S. REYNOLDS HOLE, President, The Deanery, Rochester.
F. R. BURNSIDE, Vice-President, Great Stamburgh Rectory, Rochford, Essex.

GEORGE GORDON, Vice-President, Kew.
E. B. LINDSELL, Vice-President, Bearton, Hitchin.
HENRY V. MACHIN, Vice-President, Gateford Hill, Workop.

JOSEPH H. PEMBERTON, Vice-President, The Round House, Havering-atte-Bower.

ALFRED TATE, Downside, Leatherhead.
W. WILKS, Vice-President, Shirley Vicarage, Croydon.
R. N. G. BAKER, Vice-President, Heavitree, Exeter.

H. H. D'OMBRAIN, Vice-President, Ashwell Vicarage, Ashford, Kent.

J. RAMSAY (Capt.), Vice President, Yvery House, Fareham.

A. FOSTER-MELLIAR, Vice-President, Sproughton Rectory, Ipswich.

EXTRACTS FROM THE ANNUAL REPORTS OF THE NATIONAL ROSE SOCIETY FOR THE PAST SEVEN YEARS.

1896. CRYSTAL PALACE, July 4. "The Crystal Palace exhibition, which was held at the most trying part of the season, proved as before stated an inferior one, whether regarded from the point of view of its extent or the general quality of the flowers."

ULVERSTON, July 16. "The display of flowers was not only large, but in many classes remarkably good."

1897. CRYSTAL PALACE, July 2. "The largest show the Society has yet held."

[N.B. In the report on the weather. Mr. Mawley points out that exhibition Roses came into bloom abnormally early this year.]

NORWICH, July 15. "A most successful one."

1898. CRYSTAL PALACE, July 2. "Was rather less than average extent."

HALIFAX, July 14. "The best Rose show of the year."

1899. CRYSTAL PALACE, July 1. "The least extensive Metropolitan exhibition of recent years."

COLCHESTER, July 6. "The best Rose show of the season."

1900. CRYSTAL PALACE, July 7. "An unusually extensive one, being the largest Metropolitan exhibition, with the exception of those in 1892 and 1897, yet held by the Society."

BIRMINGHAM, July 19. "The display of Roses at the Birmingham exhibition was also exceptionally large."

1901. TEMPLE GARDENS, July 4. "The display of Roses was, with two exceptions, the largest the Society has yet held, but the general quality of the flowers was below the usual standard, Tea Roses and garden Roses excepted."

ULVERSTON, July 17. "Less extensive than usual. As regards the quality of the flowers, however, it must be regarded as having been the finest Rose show of the year."

1902. TEMPLE GARDENS, July 2. "Taking the number of exhibition Roses as a guide it was the smallest Metropolitan show since 1893."

MANCHESTER, July 19. "Unusually extensive; indeed, with only four exceptions, it was the

largest exhibition that has yet been held by the Society in the provinces. Taking together the average quality of the exhibits and the number of them, it must be regarded as having been the finest Rose show of the year."

A few copies of the above Memorial have been circulated for signature. There has already been a ready response. May I ask those members of the National Rose Society who have not received the circular, and who, approving of the Memorial, desire that their names should be added, kindly to communicate with me—Joseph H. Pemberton, Havering, Essex.

DUBLIN ROYAL HORTICULTURAL.

AUGUST 25.—The show was made up of exhibits in four large marquees erected on the grounds, each representing a different section. One contained plants of various descriptions, another cut-blossoms, a third fruit, and the fourth was given over to a lady's bicycle decoration display, which during the evening commanded much attention. The exhibition in all respects was a fine one, and, in the opinion of the judges, many of the exhibits, especially in the cut-blossoms and fruit sections, were above the average.

The display of Asters, Coleus, Dahlias, Begonias, and Gladioli was a remarkably good one, and amongst those who carried off prizes were Lord CAREW, Lady DOYNE, of Gorey; Mr. REGINALD HARRIS, Mr. DAVID DRIMMIE, of Booterstown; Mr. F. A. MILLAR, of Monks-town; Mr. EDWARD D'OLIER, of Bray; and Messrs HOGG & ROBERTSON.

Messrs. DICKSON & SONS, of Newtownards, had a magnificent collection of Roses of various kinds; while Messrs. HARTLAND & SONS, of Cork, who for so many years have been successful exhibitors at all the leading shows in this country and in England, showed a number of the most beautiful specimens of Begonias, a flower to which they have devoted much attention. In addition, they staged a wonderful collection of Asters.

Messrs. DRUMMOND & SONS had also a fine display of potted plants and cut flowers, and the specimens shown from Messrs. DICKSONS' well-known nurseries attracted much attention. Amongst others whose exhibits secured leading places were Messrs. WATSON, of Clontarf, for a beautiful display of Dahlias; and Messrs. EDMONDSON BROTHERS, of Dame Street, whose ostrich-plume and comet Asters were of immense size and surpassing in form the finest Japanese Chrysanthemum, and the colours of which were of remarkable purity.

Messrs. RAMSAY & SONS, of Ball's Bridge, who make a specialty of greenhouse plants, exhibited as usual a beautiful display, to which the judges had little hesitation in awarding a prize.

Worthy of special attention also were the remarkable displays forwarded by Messrs. DICKSON & SONS, Belfast, and Messrs. JAMESON, both well-known growers, whose collections have been awarded prizes at the leading shows in the country.

STROUD HORTICULTURAL.

AUGUST 26, 27.—The annual show was held in the grounds of E. S. Godsell, Esq., the co-secretary of the show. The exhibits were praiseworthy, and well arranged in commodious tents.

There were three classes for groups of miscellaneous plants, and good groups were shown in each. The first group, 8 feet deep by 25 feet frontage, attracted three competitors, the premier prize of £15 falling to the Messrs. CYPHER & SONS, of Cheltenham; the 2nd, to Sir J. E. DORINGTON, Bart.

For a group in the space of 8 feet by 15 feet, E. S. GODSELL, Esq. (gr., Mr. Hammond), set up a charming exhibit, and won the 1st prize. The 2nd prize group, from Mrs. BLACKWELL, lacked lightness in arrangement.

Two exhibitors entered the class for a group occupying a space 8 feet by 10 feet, and the 1st prize was awarded to J. D. LANE, Esq. (gr., Mr. Powell).

For six specimen stove and greenhouse plants, three foliage and three flowering, Mr. CYPHER was closely followed by Mr. Wm. VAUSE.

The 1st prize for six distinct exotic Ferns was awarded to Sir J. E. DORINGTON (gr., Mr. Savage). Mr. GODSELL, who won 2nd prize, had a large plant of *Davallia filix-mas plumosa*.

For six varieties of double-flowered Begonias the Rev. S. CORNISH won 1st prize; and for single Begonias, Messrs. PRICE & SONS.

The exhibits in the classes for plants, cut flowers fruit, and vegetables were generally good.

A large number of excellent exhibits were staged in the Cottagers' classes, vegetables being very fine, also fruit, in spite of the vagaries of the weather.

The Royal Horticultural Society's Silver-gilt Medals were awarded to Messrs. Hugh Low & Co. for Orchids; Messrs. Peed & Sons, for Caladiums; Messrs. Wm. Cutbush & Son, for herbaceous and Alpine plants; Messrs. Cowan & Co., Liverpool, for Orchids; and to Mr. E. S. Godsell, for a miscellaneous group of flowering and foliage plants.

DUMFRIESSHIRE AND GALLOWAY HORTICULTURAL.

AUGUST 28, 29.—The annual exhibition was held in Castledykes Park, Dumfries, on the above dates. The show was a worthy rival to the memorable one with which the Society celebrated its jubilee in 1862, and was quite the best held under the auspices of its present management. The number of entries was very much larger than last year, and, in spite of the unfavourable weather which prevailed right up to the first day, the exhibits were of good quality, and came from a wide district.

For the 1st prize of £5 and the custody of the handsome 15 guinea Challenge Cup, presented by the Dumfries Town Council for the best table of plants 12 feet by 6 feet, there was strong competition in the Open class. The prize went to Messrs. JAMES SERVICE & SONS, Maxwelltown. The 2nd prize was awarded to Mr. J. M. STEWART, gr. to JOHN NEILSON, Esq., of Mollance, Castle Douglas.

For the circular group of plants 9 feet in diameter, Messrs. JAMES SERVICE & SONS also took 1st place; Mr. R. GRIGOR, gr. to M. BALMAIN, Esq., of Woodlands, was 2nd.

For twenty-four Rose blooms, Messrs. J. PALMER & SON, LTD., Annan, were 1st; Messrs. W. LEARMONT & SON, Dumfries, being 2nd.

In the section for fifteen Tea Rose blooms, Mrs. RUTHERFORD, Crichton House, Dumfries, was 1st.

Messrs. J. BOGIE & SON carried off the prize for a collection of cut Dahlias arranged for decorative effect. Sweet Peas were exceedingly good, and Messrs. W. LEARMONT & SON's collection of eighteen bunches well deserved the first place.

For twenty-four bunches of hardy herbaceous plants, Messrs. W. MIDDLETON & SON took 1st place with a choice collection; while Messrs. T. KENNEDY & CO., Dumfries, were 2nd. Other prizes went to Messrs. JAMES SERVICE & SONS, for twelve plants for table decoration; Messrs. W. MIDDLETON & SON, for twelve Conifers; and Messrs. KERR BROS., Dumfries, for twenty-four Carnations or Picotees.

In the Gardeners' class, cut flowers made an excellent display, Sweet Peas, Asters, Roses, and herbaceous plants being conspicuously good. Among pot plants, the Begonias had suffered considerably from the weather, but Ferns and Chrysanthemums were noticeable; while the bulbous plants and zonal Pelargoniums, for which Mr. C. M. IVER, gr. to Mrs. YOUNG, Lincluden; and Mr. J. M. STEWART, Mollance, took the respective prizes, were perhaps the best exhibits.

FRUIT.

considering the very bad season, made a surprising show. Grapes were exceedingly fine, and hardy fruits excellent. Mr. STEWART was 1st for a collection of fruit, and Mr. JAS. DUFF, gr. at Threave, 2nd.

Mr. B. RUTHERFORD, gr. at Glenlair, was 1st for a collection of hardy fruits; Mr. DUFF being 2nd.

For Grapes, Mr. DUFF, Mr. James Henderson, gr. to J. MINTO, Esq., of Elmbank; Mr. A. ROBERTSON, Closeburn; Mr. M. B. McDONALD, Langholm; and Mr. HOUSTON, Crichton, were the prize-winners.

VEGETABLES.

especially Onions, were very good. Mr. DUFF and Mr. HOUSTON were 1st and 2nd for a collection of twelve sorts; and Mr. W. ANDERSON, Collin; and Mr. R. MIDDLETON, Kircudbright, for six sorts.

TRADE EXHIBITS.

Plants were sent for exhibition by Messrs. KENNEDY & CO., Dumfries; Messrs. FOTHERINGHAM & KING, Dumfries; Mr. JAMES KENNEDY, Greenbrae (Dahlias); and Messrs. J. PALMER & SON, LTD., Annan (Roses).

GREAT AND LITTLE WARLEY COTTAGE-GARDEN SHOW.

SEPTEMBER 3.—This was the fifth annual exhibition, and with it was held for the first time an exhibition of farm produce. A large circular marquee, with a good-sized oblong tent running out of it, was set up near the front of the residence of Warley Place, and Miss Willmott, the President, was ubiquitous superintending every detail, while attentive to her many visitors. Col. WHITTINGTON, the Hon. Sec., with Mr. J. Preece, the gardener at Warley Place, made the various arrangements for the exhibits, Mr. Berkeley also rendering assistance.

In the centre of the marquee was a large group of plants from Warley Place, arranged by Mr. Preece; in another part was a fine and varied collection of fruit and also of cut flowers; while one portion of the side of the marquee was occupied by a very fine collection from Messrs. WALLACE & CO., Kilnfield Nurseries, Colchester.

Some of the servants in the house contributed something to the show, in which their mistress takes so much pride, one furnishing a miniature rock-garden. Mr. JOHN RUSSELL, nurseryman, Brentwood, had a bold and striking group of plants and also of cut flowers in the tent, and outside a large group of hardy subjects in excellent character. Mr. LEONARD BROWN,

Seven Arches, Brentwood, had a pretty collection of Sweet Peas.

The competitive exhibits were from the parishes of Great and Little Warley. Division I. was for cottagers only; Divisions II. and III. for cottagers and amateurs. Altogether there were about sixty-five classes, comprising plants, cut flowers, fruits, and vegetables.

In addition Miss Willmott offered prizes for the best cultivated cottage and allotment gardens, and made the proviso that they be inspected at least three times in a season. Prizes were also awarded for the prettiest garden and window garden. In order to stimulate home industries, there are classes, under the head of Miscellaneous, for cooked Potatoes, honey, bread, cakes, home-made jams, and suet-puddings made without eggs. There was a division for handicrafts and needlework, and for washed and ironed shirts and collars. There was also a group of classes for children under 14 years of age, which included needlework in various forms, maps, drawing, essays on botany, &c.

Miss Willmott threw open her beautiful gardens for the inspection of visitors. R. D.

CROYDON AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.

SEPTEMBER 1.—A new feature in the programme of this Society was successfully carried out at their rooms, Sunflower Temperance Hotel, George Street, on the above date, when discussions on Floral Decorations, with demonstrations, created a very enjoyable two hours' entertainment. The principal interest was centred on three dinner tables, which had been artistically decorated by Messrs. M. E. MILLS, A. MASLEN, and P. F. BUNYARD respectively, and the decorative excellence displayed by them called forth a word of praise from all who were present. The discussion was principally on table decorations, but many useful suggestions were made on other decorations. Interesting exhibits came from Mr. W. BENTLEY, who brought *Drosera rotundiflora*; from Messrs. THOMPSON & SONS, Wimbledon, a specimen plant of the new double flowered *Gypsophila paniculata*; from Messrs. WELLS & CO., Earlswood, two new Chrysanthemums, "The Champion" and "Carrie," the former having that day gained an Award of Merit at the Royal Horticultural Society's meeting in London; and from Mr. A. C. ROFFEY, four excellent specimens of his improved Telegraph Cucumber.

THE FLOWER SHOWS OF NORTHUMBERLAND.

THE Northumberland flower show season was recently at its height, and considering the sort of summer we have had, the quality of the exhibits shown was really wonderful.

Quiet, industrious, and generally speaking, sober, the Northumbrian miner takes unbounded delight in his cottage garden, and the annual flower show is to him the one red-letter day of brightness and animation in a work-a-day calendar that contains very much that is dreary and colourless.

Perhaps this passionate love of flowers may be accounted for by the law of contrasts. Working, as he does, day after day away from the sunlight and amid the darkness of mother's earth's internal economy, the tending of his Roses or fruit-trees affords a very real relief and pleasure.

Apart from that, however, one fact is very evident. These northern village flower shows—and scores take place all over the county—produce an array of gorgeous blooms, tastefully arranged bouquets, and succulent vegetables that would do honour to far more pretentious exhibitions.

The attendance at each of these little annual fêtes is to be numbered in thousands, for villagers from the surrounding countryside troop in to make critical comments on the various exhibits, which of course they do not consider to approximate in splendour to those raised in their own particular abode.

Village rivalry is very strong, and many places have the reputation of producing certain classes of flowers, fruits, or vegetables, which is jealously regarded and maintained. The village of Swalwell is famed as the home of the giant Gooseberry, while other places boast of their mammoth Leeks, and so on.

In addition to a splendid array of blooms, bearing eloquent testimony to the excellence of the floriculturist's art, these shows often develop into a sort of annual merry-making, for sports and athletics are generally held in the evening, and may be there is a choral contest. At any rate, there is sure to be a good band to enliven the proceedings, for the show coffers are generally quite full, so gratifying is the support accorded.

As one who has had the privilege of visiting a large number of these functions this year, I have been greatly struck by the excellence displayed in the various departments; especially in cut-flowers I have noticed some dazzling arrays of blooms. Lovely

Pansies, fragile Petunias, gorgeous Dahlias (particularly the Cactus variety), military-looking Gladioli, Zinnias, Begonias, among others.

In the Open classes I have examined some splendid exhibits of cut flowers from Messrs. HARKNESS & SONS, of Bedale, who win many prizes. Other well-known firms think it worth while to send exhibits for the sake of advertisement. One can generally notice, too, industrial classes, in which the "gudewife" can show her skill; while the youngsters display wonderful creations in the way of fretwork cathedrals and the like. A man's hobby often proves an index to his character; in which connection I say, "Long may the Northumberland miner stick to his cottage garden!" W. T. G., Newcastle-on-Tyne.

ROYAL CALEDONIAN HORTICULTURAL.

SEPTEMBER 9, 10.—The show held in the Waverley Market, Edinburgh, on Wednesday and Thursday last was one of the best of late years, and formed a pleasant surprise to those who did not hope for anything so good. Fruit, however, was not up to the usual standard as to quantity, though the quality for the present season was very good. Flowers formed an extensive exhibition, the quality being in most instances all that could be desired.

FRUIT.

The chief class was for:—Table of Dessert Fruit, 10 feet by 4 feet 6 inches, decorated with plants in pots not exceeding 5 inches in width, Cut Flowers and Foliage, Orchids being excluded. There were only three exhibitors, Mr. Goodacre, gr. to the Earl of HARRINGTON, Elvaston Castle, being 1st for fruit with 106½ points, having fine Madresfield Court (7 points), Chasselas (5½), Muscat of Alexandria (8), Black Hamburgh (7½), Washington Apple (6½), Ribston Pippin (7), Figs, Brown Turkey (6), Melon (7 and 8), Nectarine Pine-apple (7), and N. Albert Victor (7½), Peaches (6) and Barrington (7), Pears Souvenir du Congrès (7½), and Margaret Marillat (8), and Plum Coe's Golden Drop (7). Mr. Kidd, gr. to Lord ELPHINSTON, Carbery Towers, was 2nd with 9½ points, Grapes very good; and Mr. Smith, gr. to Lord STAIR, Oxenford Castle, 3rd.

Mr. Kidd secured the 1st prize for decorations with 25½ points out of a possible of 28. The flowers employed were mainly *Gloriosa superba*, *Gypsophila*, *Francoa ramosa*, with a few sprays of *Smilax*, the general effect being somewhat heavy; Mr. SMITH 2nd, with 20½ points; 3rd, Mr. GOODACRE, with 15 points, and by far the most charming arrangement.

There was some dissatisfaction among onlookers as to the result of the pointing in this portion of the class.

For a Collection of Ten dishes of Fruit Mr. GOODACRE was again 1st with beautifully finished Madresfield Court and less good Muscat of Alexandria Grapes, a fine Queen Pine apple, Gunton Hero Melon, Princess Peach, Albert Victor Nectarine, extra fine Directeur Hardy Pear, a Gage Plum, and Brown Turkey Fig. Mr. Mackinlay, gr. to Earl COWPER, Wrest Park, Amptill, Beds, was 2nd.

For a Collection of twelve dishes Hardy Fruit grown out of doors (confined to Scotland).—Mr. Day, gr. to the Earl of GALLOWAY, Garlieston, was 1st with a fair lot.

For a Collection of twelve dishes of Fruit grown in an Orchard house, Grapes excluded.—Mr. GOODACRE secured 1st prize with really grand produce, Pitmaston Duchess and Margaret Marillat Pears, Gascoigne's Scarlet and King of Tompkins's County Apples, Albert Victor and Spencer Nectarines specially fine. Mr. Greenlow, gr. to H. J. YOUNGER, Benmore, was a very good 2nd, showing also grand examples of Apples, Pears, and Peaches.

GRAPES.

The bunches of Grapes, like the collections of fruits, were rather short in number.

For six bunches of Grapes, at least three varieties.—Messrs. D. & W. BUCHANAN, Forth Vineyard, Kippen, secured 1st place with grand clusters of Alicante, Muscat of Alexandria, and Alnwick Seedling—a truly grand exhibit; Mr. Jas. Beisant, gr. to Mrs. ARMISTEAD, Castle Huntly, 2nd, also with a grand lot, comprising Muscat Hamburgh, Muscat of Alexandria, Madresfield Court (extra fine); 3rd, Mr. Green, gr. to Sir C. M. PALMER, M.P., Loftus, with very fine examples, perhaps hardly ripe. 1st, 49½ points; 2nd, 46½ points; 3rd, 44½ points.

Four bunches of Grapes.—Mr. GOODACRE was 1st with Black Hamburgh (well finished), Muscat Hamburgh, Muscat of Alexandria, and Madresfield Court (27 points); 2nd, Messrs. BUCHANAN, with bunches less good than in the former class (25½ points); 3rd, Mr. GREEN.

Two bunches Muscat of Alexandria.—These were somewhat wanting in finish, though the clusters were all large and fine. Mr. H. E. HUGHES, gr. to Sir D. E. HAY, Bart., King's Meadow, Peebles, being 1st; Mr. GOODACRE, 2nd; and Mr. DAY, 3rd.

Two bunches Black Hamburgh.—There was a strong competition in this class, the Grapes being superior to what one usually sees of this old variety. Mr. GOODACRE was 1st with large bunches; Mr. A. GRIEVE, Hunter Street, Kirkcaldy, 2nd, and Mr. KIDD, 3rd.

One bunch Muscat of Alexandria.—Mr. GOODACRE was 1st with a medium bunch of splendid finish; 2nd, Mr. HUGHES; 3rd, Mr. Fann, gr. to Lord BALFOUR of Burleigh.

One bunch Black Hamburgh.—Mr. GREIVE was 1st with a splendidly finished example; 2nd, Mr. STUART, Thirlestane Castle; 3rd, Mr. Galloway, gr. to Lord WEMYSS, Gosford.

One bunch Alicante.—Mr. SUTHERLAND, Polmont Station, 1st, with a fine bunch; 2nd, Mr. STUART, Thirlestane Castle; 3rd, Mr. MOODY. This was a large and good class.

One bunch Alnwick Seedling.—Mr. GREEN had an extra large cluster, well finished, to which the 1st prize was awarded; 2nd, Messrs. BUCHANAN; 3rd, Mr. SUTHERLAND, gr. to J. L. LEARMONT, Esq., Polmont Station.

For one bunch Gros Colmar.—Mr. Stuart, gr. to Lord LAUDERDALE, Thirlestane Castle, was 1st.

For one bunch of Lady Downes, Mr. KIDD had 1st prize; and for one bunch of Madresfield Court, Mr. BEISANT was 1st.

The best bunch of Diamond Jubilee was shown by Mr. KIDD, who had a small but well-finished example; Mr. BEISANT was 2nd.

The same variety was shown by Messrs. BUCHANAN in a class for one bunch of any new Grape introduced since 1885, and it was awarded 1st prize.

In a class for one bunch of black Grapes of finest flavour, Mr. MURRAY was 1st, with Muscat Hamburgh; Mr. GOODACRE, 2nd, with the same variety; 3rd, Mr. BEISANT, with Madresfield Court.

Mr. HUGHES showed the finest flavoured white Grapes in Muscat of Alexandria.

In a class for one bunch of a Black Grape having finest bloom Mr. SUTHERLAND was 1st with Appley Towers.

OTHER FRUITS.

Mr. GOODACRE was the only exhibitor of one Queen Pineapple, a good fruit to which 1st prize was awarded.

Mr. GOODACRE had also the best green or white-fleshed Melon, and Mr. DAY the best scarlet flesh variety.

Figs were rather small; the 1st prize went to Mr. J. Brown, gr. to Major BALFOUR, Balleslie.

Peaches.—There was a remarkably good lot in the class for twelve fruits, Mr. Wilson, gr. to Miss MANSEL, Sulby Hall, Rugby, was 1st with fine fruits; 2nd, Mr. GLEN, Larbert, with Sea Eagle. Mr. WILSON was also 1st for twelve Nectarines, with very fine fruits of River's Orange; Mr. SMITH, Oxenford Gardens, with good Humboldt, was 2nd.

Apricots were disappointing, and Plums were not largely staged.

Collection of Dessert Plums, four varieties, nine of each.—Mr. GOODACRE was 1st with Guthrie's Gage, Bryanston Gage, Jefferson, and Coe's Golden Drop, perfectly ripened; Mr. SINCLAIR, Congleton, was a good 2nd; and Mr. MACKINLAY, 3rd.

Collection of Culinary Plums.—Mr. GOODACRE was 1st with Belle de Septembre, Monarch, Pond's Seedling, and Goliath; 2nd, Mr. SMITH, Oxenford Gardens; 3rd, Mr. MURRAY, Culzean Castle Gardens.

For Apples, twelve varieties, ripe or unripe, there was a fair lot of fruit. Mr. Smith, gr. to Madame SMITH, Convent Garden, Roehampton, was 1st with good examples of culinary varieties; Mr. FINDLAY, Maresfield Park, 2nd; and Mr. GIBSON, Kingston-on-Thames, 3rd.

The next Class was for a Collection of Apples grown in Scotland, twelve varieties.—1st prize, "Malcolm Dunn Memorial Medal in Horticulture" and £3. This brought out a strong competition, no fewer than eleven competitors staging. The fruit, owing to the season, was less good than usual, but the collections as a whole were quite as good as could be expected. Mr. SINCLAIR, Congleton, Drem, secured 1st prize with nicely finished fruits; Mr. DAY 2nd, but not nearly up to his usual form; and Mr. MURRAY, Culzean, 3rd.

Collection of Apples, six varieties.—There was a very strong competition, Mr. SMITH, Roehampton, being 1st with nice clean fruits; Mr. CADDICK, Caradoc Ross, 2nd.

Six Dessert Apples.—Of single dishes of Apples there were, as usual, numerous exhibits, Bramley Seedling, Ecklinville, Alfriston, Worcester Pearmain, Lady Sudeley, James Grieve, Grenadier, Lord Suffield, Lord Grosvenor, Peasgood's Nonsuch, Pott's Seedling, and The Queen, being the best shown, many being particularly good, and the prizes going mainly to English growers.

Collection of Pears, twelve varieties, ripe or unripe.—Pears were also fine, and Mr. HINDLEY was 1st, showing fine Jules Guyot, Pitmaston Duchess, Beurre d'Amanlis, Duchess d'Angoulême, and Williams' Bon Chrétien; 2nd, Mr. MACKINLAY.

Collection of Pears, grown in Scot' and, six varieties.—Mr. GREENLAY, Benmore, was 1st, with some good fruits. There were of these also a large number of single dishes, mostly of good quality.

PLANTS.

Group of Miscellaneous Plants, arranged on floor to produce the best effect within a circle 18 feet in diameter. The exhibit need not itself be circular, nor

occupy the whole floor space.—Only one exhibitor staged.—Mr. Wood, gr. to J. BUCHANAN, Esq., Oswald House. The group was an effective one, with many *Clerodendron fallax*, that brightened up the arrangement of Orchids, Primulas, Crotons, &c.

Four Stove or Greenhouse Plants, in flower, distinct.—1st, A. G. WOOD, Oswald House, Edinburgh, with *Anthurium Knightii*, *Fuchsias* Mrs. Marshall and Royal Standard, and *Francoa ramosa*; 2nd, GEO. MCKENNA, gr. Norton, Ratho; 3rd, H. E. HUGHES, Peebles.

One Stove or Greenhouse Plant, in Flower.—Mr. GEO. MCKENNA, gr., Norton, Ratho, was 1st with a *Statice*.

Four Orchids, distinct.—1st, WM. SHARP, gr., Forgardenny, with *Cattleya Sanderiana*, *C. velutina*, *Odontoglossum Alexandra*, and *O. Pescatorei*; 2nd, G. WOOD, gr., Oswald House.

One Orchid.—1st, WM. SHARP, Forgardenny, with *Cattleya Sanderiana*; 2nd, G. WOOD.

Three *Cypripediums*, distinct.—1st, WM. SHARP, Forgardenny, with *Cypripediums* *canthum superbum*, *C. Curtisii*, and *C. Harrisianum*.

Four Exotic Ferns, distinct species, exclusive of all others for which Prizes are offered.—1st, WM. M. BRUCE, gr., Rockville, Murrayfield, with *Gymnogramma Lauchena gigantea*, *Todea pellucida*, *Microlepia platyphyllo*, and *Asplenium longissimum*; 2nd, GEO. WOOD.

Four *Adiantums*, distinct.—Mr. L. MOUDIÉ, Musselburgh, 1st, with *Williamsii*, *concinnum*, *cuneatum*; 2nd, JOHN PEARSON, Murrayfield.

Tree Fern, not less than 3 feet stem.—1st, Mr. ANDREW PRYDE, Newington House; 2nd, A. MCKENZIE, Trinity Grove; 3rd, G. WOOD.

Four British Ferns, distinct.—1st, CHAS. PATTISON, Linwood; 2nd, W. M. BRUCE, Murrayfield.

Nine Dwarf British Ferns, distinct, pots not exceeding 6 inches.—1st, J. C. BROWN, 25, Waterloo Place; 2nd, D. MILLER, Penicuik; 3rd, WM. ROBERTSON, Falkirk.

Six *Selaginellas*, not fewer than three being distinct.—1st, Mr. WM. BRUCE, Murrayfield, with *S. dichotoma*, *S. Mastersii*, *S. Galleotti*, *S. Caesia*, *S. Mertense*, *S. variegata*; 2nd, G. WOOD, Oswald House.

Six foliage Plants, distinct, exclusive of Palms.—1st, Mr. J. TOM, with *Dracena Gladstonei*, *D. Massangeana*, *D. Doucetti*, *Codiaeum Reediti*, and *Ficus elastica*; 2nd, ALEX. MCKENZIE, Trinity Grove; 3rd, GEO. MCKENNA, Norton, Ratho.

Six foliage plants, distinct, in pots not exceeding 9 inches.—1st, Mr. J. TOM, with *Dracena sanderiana*, *D. Duchess of Portland*, *Codiaeum Reediti*, and *Ficus elastica*; 2nd, Mr. A. McMILLAN, Douglas Castle.

Six Table Plants, foliage, distinct, pots not exceeding 6 inches.—1st, Mr. R. GLEN, Larbert; 2nd, ALEX. McMILLAN, Douglas Castle.

Six do., Ferns.—1st, ALEX. McMILLAN, Douglas Castle; 2nd, WM. HENDERSON, Corstorphine.

Six Tuberous-rooted Begonias, single, distinct vars.—1st, Mr. ROBERT BROWN, Eskbank; 2nd, J. PROSSER, Corstorphine; 3rd, WM. SMITH, Dreghorn Castle.

Three do., double, do.—1st, Mr. ROBT. BROWN, Eskbank; 2nd, WM. SMITH, Dreghorn Castle; 3rd, CHAS. DICKSON, Corstorphine.

Two *Fuchsias*, distinct.—1st, Mr. W. HEATTIE, Galashiels; 2nd, W. AITKEN, Balerno; 3rd, ANDREW PRYDE, Newington House.

CUT FLOWERS.

There was an enormous quantity of all kinds of flowers, the greater proportion of which was of superior quality.

For Twelve Gladioli, distinct varieties, Mr. BENNETT, Berwick-on-Tweed, was 1st with very fine spikes; 2nd, Mr. LAWRIE, Prestwick, also very fine; and 3rd, Mr. BRYDON, Innerleithen.

The same exhibitors repeated their successes for Six Gladioli, all of which were fine.

For Twelve Double Tuberous rooted Begonia Blooms, Mr. JOHNSTON, East Linton, Prestonkirk, was 1st with a fine lot of blooms of the newest forms; Rev. Mr. RODGERS, Prestonkirk, was 2nd; Mr. R. Ballantyne, gr. to J. REID, Esq., Bygorn, 3rd.

Twelve Show or Fancy Dahlia Blooms, distinct varieties.—Mr. SUTHERLAND, Kirkintilloch, 1st; Mr. VEITCH, Carlisle, 2nd; Mr. ROBERTSON, Eastwood, 3rd.

Twelve Cactus Dahlia Blooms, distinct varieties.—These were fine, being fresh and well coloured. Mr. SUTHERLAND was 1st here; 2nd, Mr. ROBERTSON; and 3rd, Mr. McCOWEN, gr. to A. COLVILLE, Esq., Arngomery, Kippen.

Six Bunches Cactus Dahlias, distinct varieties, six blooms in each bunch.—Mr. ROBERTSON, Eastwood, 1st; 2nd, Mr. SUTHERLAND, Kirkintilloch.

Twelve bunches Sweet Peas, distinct, own foliage, not more than forty spikes in each bunch.—Of these there was a great assortment of fresh and large blooms, all in the improved and newer varieties; Mr. MALCOLM, Duns, being 1st with a remarkably fine lot; 2nd, Mr. R. MACKENZIE, Aviemore; and 3rd, Mr. DUNCAN, Schoolhouse, Fogo.

Six bunches Sweet Peas, distinct, not more than forty spikes in each bunch, decorated with any kind of foliage or grass.—This was a very pretty lot, the arrangements

of many being very happily conceived and executed. Mr. Prosser, gr. to W. T. DICKSON, Esq., Corstorphin, being 1st, with the best Peas exhibited; 2nd, Mr. YOUNG, Jedburgh; and 3rd, Mr. R. MCANDIE.

Twelve Roses, distinct varieties.—1st, Mr. BENNET, Kent Cottage, Hellenburgh, with fresh blooms; 2nd, Mr. PARLANE, Rosslea Row; and 3rd, Mr. LAURENCE BLACK, Kinglassie, Fife.

Twelve Tea Roses, not fewer than six varieties.—Here Mr. PARLANE was 1st; Mr. BENNET, 2nd; and 3rd, Mr. BLACK.

Six Vases of Carnations, one variety in each vase, with own foliage and buds, not exceeding nine expanded blooms in each vase. Vases to be supplied by the Society.—Mr. BRYDON, 1st with fresh, clean blooms; and Mr. YOUNG, Jedburgh, 2nd.

Six Vases Carnations, with own foliage and buds, not exceeding nine expanded blooms in each vase. Vases to be supplied by the Society.—Here Mr. BRYDON was again 1st with a superior lot of blooms; and Mr. BENNET, Tweedmouth, 2nd.

Six Vases Picotees, ditto.—Mr. BRYDON was here again 1st, and Mr. RANKIN, Dunfermline, 2nd.

Twelve Chrysanthemum blooms.—These were really fine, Mr. Baird, gr. to J. YOUNGER, Esq., Amsbrae, being 1st; and Mr. RICHARDSON, Manor, Peebles, 2nd.

Twelve bunches Hardy Herbaceous Perennials, distinct.—Mr. BRYDON was 1st; 2nd, Mr. ROBERTSON, Thornliebank. This class was a very striking one.

Twelve Vases, Hardy or Half-hardy Annuals, distinct effective arrangement to be considered.—Mr. MCANDIE, Inveresk, was 1st; and Mr. MCFARLANE, Kilgraston, Bridge of Earn, 2nd.

The annexed Class brought out a stronger competition than usual.

OPEN TO LADIES ONLY.

The best and most tastefully arranged dinner-table decoration, consisting of cut flowers and foliage, set out in glasses or other suitable receptacles, or placed on the table-cloth. A space not exceeding 5 feet by 3 feet was allowed.—Mrs. J. MACKENZIE, Polworth Gardens, being 1st with an arrangement of Lilium speciosum, Duchess of Fife Carnations, and Gypsophila paniculata; Mrs. DUNCAN, Fogo, 2nd, with Sweet Peas; and Miss JANE F. CAMPBELL, Comely Bank, 3rd.

VEGETABLES.

For a Collection of Vegetables, twelve kinds, Mr. Gibson, gr. to R. W. HUDSON, Esq., Marlow, Bucks, was 1st with 61 points to his credit. Celery, Leeks, Tomatos, Onions, Peas, Carrots, and Cauliflowers being particularly fine. Mr. HARPER, Tulliebelton, Bankfoot, was 2nd with 54½ points, showing very fine samples; 3rd, Mr. Rae, gr. to Major ROSS KERR, Sunlaws, Kelso, with 52½ points.

Of Leeks there were many splendid specimens, those from Mr. McMillan, gr. to the Earl of HOME, Douglas Castle, to which the 1st prize was awarded, being fine indeed.

Celery also was fine, Mr. WALDIE, Dollarbeg, being 1st. There were also many dishes of fine Tomatos, also good exhibits of Peas, Cucumbers, and other vegetables of very superior quality.

NURSERYMEN.

For the best collection of Hardy Flowers, not exceeding 100 bunches, arranged on a table not exceeding 25 feet by 5 feet, no duplicate bunches allowed; Messrs. COCKER & SONS, Aberdeen, alone staged in this important class, and they were awarded 1st prize.

Thirty-six Gladioli, not more than two of any variety.—Mr. MAIR, Prestwick, showed the only lot in which were many very fine examples, viz., Girandole, Cronstadt, Hamlet, Formosa, Mme. P. Palmer, Carmelite, Mahomet, Michael Angelo being particularly fine. The 1st prize was awarded.

Collection of Dahlias, any varieties, space 7 feet by 5 feet.—Mr. R. J. HAMILL, The Vineries, Birmingham, was 1st in this class with a finely-arranged group, embracing the best of the several sections; Messrs. CAMPBELL & SON, Auchencrath Nurseries, High Blantyre, a good 2nd.

Eighteen bunches Cactus Dahlias, distinct varieties, six blooms in each bunch.—Messrs. CAMPBELL & SON were again 1st in this class, showing fully-developed and well coloured blooms; and Mr. SMELLIE, 2nd.

Twenty-four Dahlias, distinct varieties.—In this class Mr. SMELLIE scored, having large, fresh and perfect blooms; Messrs. CAMPBELL was 2nd; and Messrs. LISTER & SONS, Rothesay, 3rd.

Twenty-four Cactus Dahlias, distinct varieties.—Here Messrs. CAMPBELL & SONS were 1st, with a grand lot of blooms; and Mr. SMELLIE, 2nd.

Thirty-six Roses, distinct varieties.—Messrs. J. COCKER & SONS, Aberdeen, were 1st, the best blooms being Marchioness of Londonderry, C. Testout, Mrs. W. J. Grant, G. Harkness, Papa Lambert, Madame E. Verdier, these being very fine; Messrs. D. & W. CROLL, Dundee, were 2nd, with smaller fresh blooms; and Mr. HUGH DICKSON, Belfast, was 3rd.

For eighteen Roses, distinct, Messrs. COCKER were again 1st, with large and fresh blooms; 2nd, Messrs. CROLL; and 3rd, Mr. HUGH DICKSON.

Twenty-four Tea Roses, not more than two of any one variety.—Messrs. CROLL, 1st, with small neat buds; Messrs. ADAM & CRAIGMILL, Aberdeen, 2nd.

Twelve any Scarlet or Crimson Rose.—Messrs. CROLL were 1st, with medium-sized but lovely blooms of John Stuart Mill; Messrs. COCKER, 2nd, with Marie Baumann in glorious colour; Mr. DICKSON 3rd, with Hugh Dickson.

Twelve Vases of Roses, one distinct variety in each vase, excluding H.P. To be shown on stems not less than 9 inches in length, and in vases to be supplied by the Society.—1st, Messrs. W. & R. FERGUSON, Dunfermline; this, however, did not appear quite so worthy as that of Messrs. COCKER & SONS, Aberdeen, who were 2nd; and 3rd, Messrs. CROLL.

Collection of Roses, to occupy space 5 feet by 5 feet, shown with own Buds and Foliage.—JAS. COCKER & SONS, Aberdeen, secured the 1st prize with a very fine lot, Alfred Colomb and Ards Rover being very fine; Messrs. F. & R. FERGUSON, of Dunfermline 2nd.

MISCELLANEOUS EXHIBITS.

These were as usual at Edinburgh of great merit and very numerous, producing a great effect in the general appearance of the market. From Messrs. A. LISTER & SONS, Rothesay, came a nice lot of Pansies, Violas, Carnations and Picotees, florist varieties, with Cactus Dahlias, &c.; and from Mr. T. JANNOCK, Dersingham, came Lily of the Valley and Lilacs.

A very pretty lot of American Carnations, comprising Mrs. LAWSON, Floriana, Royalty, Queen Louise, and Harry Fenn, was staged in an agreeable method by Mr. A. F. DUTTON, Bexley Heath.

Mr. HENRY ECKFORD, Wem, set up his usual table of Sweet Peas, and a nice lot of the same flower was set up by Mr. LAWRIE, Rose Lea Gardens, Bestwick: the same exhibitor staging a collection of nicely-grown Apples.

From Messrs. CUNNINGHAME, FRASER & CO., Comely Bank, Edinburgh, there was staged a grand group of Conifers and hardy flowers in great variety. Messrs. JAMES GREIVE & SONS, Redbraes, Nursery, also staging hardy flowers.

Messrs. DOBBIE & CO., Rothesay, staged a very large group mainly of cut flowers, Cactus Dahlias being finely staged along with Chrysanthemums and other flowers in season; and a strain of Fuchsias of the fulgens strain, to one of which, R. H. Hennel, an Award of Merit was awarded.

Mr. ANGUS, Penicuik, staged cut blooms of the large-flowered variety of Chrysanthemum maximum "King Edward." From the Nurseries of Mr. JOHN FORBES, Hawick, came a large exhibit of cut flowers, among which Pentstemons, Phloxes, Carnations, Hollyhocks, and Cactus Dahlias were conspicuous for high quality. Messrs. KENT & BRYDON, Darlington, showed a nice lot of cut Carnations arranged in glasses. Messrs. LAING & MATHER, Kelso, set up a large table of most of the varieties of Carnations for which they are celebrated. Messrs. DICKSON & SONS, Edinburgh, also showed Carnations in variety. Mr. R. J. HAMILL, Birmingham, produced a fine effect with Cactus Dahlias. Messrs. CAMPBELL & SON, High Blantyre, also exhibiting choice varieties of the same plant. Messrs. DICKSON & CO., Waterloo Place, produced a grand mass of grouped plants and flowers, with fruiting Vines, Vitis Cointet, V. purpurea, Pelargonium Coronation Gem, Begonias in great variety, with Ferns and stove and greenhouse plants.

Messrs. T. METHUEN & SONS, 15, Princes Street, set up a large group of plants, chief among which were Lilliums, Clematis, and Chrysanthemums; and this formed undoubtedly one of the grandest displays in the show.

The table furnished by Mr. JOHN DOWNIE, Princes Street, included fine Begonias, Pelargoniums, Gloxinias, Violas, Pansies, Dahlias, and various hardy flowers, the arrangement generally being somewhat different from what one usually sees.

Messrs. STORRIE & STORRIE, Dundee, had a charmingly-arranged table, in which fruiting Apple-trees were prominent, with lovely Streptocarpus blooms, single-flowered Begonias, Cockscombs in pots, and Dahlias.

From Messrs. SANDER & CO., St. Albans, came a group of the newer Orchids, which attracted much attention from lovers of those flowers.

Messrs. R. B. LAIRD & SON, Pinkhill, had an extra and most effective arrangement of plants in groups, consisting of standard Codiums; Dracenas, Lilliums, Cattleyas, with large Palms, Cycads, Bamboos, and quantities of decorative subjects of the most preferred kinds arranged in a novel and most effective fashion.

Messrs. TODD & CO., Shandwick Place, presented a marvellous display of Roses in the form of Harps, wreaths, crosses, baskets, and posies. These were extremely artistic in not only the arrangement, but also in the disposing of the colours effectively.

Messrs. BLACKMORE & LANGDON, Bath, staged a table of double Begonias of great beauty, many of the blooms being of enormous size and glorious colouring, Rosie, W. Sparshott, Lady Wilmot, Countess of Warwick, Mrs. Moger, and Evelyn Courtney being particularly fine.

TRADE NOTICES.

BUNYARD'S, MAIDSTONE.

THE above business started in 1796, and for the past twenty-three years carried on by George Bunyard, V.M.H., has for family reasons been registered as George Bunyard & Co., Ltd. No shares are issued to the public, and the Company take over the concern as from October 1, 1902. George Bunyard remains as governing director his son Edward Ashdown Bunyard and Binlay Sanderson being managing directors, so that no change in the personnel of the firm takes place, the statutory number of members being made up of the family.

GREEN LANE NURSERY, SUNBURY, MIDDLESEX.

Mr. S. G. MASON having resigned his position from above will no longer represent the firm of S. G. Mason & Co., Green Lane Nursery, Sunbury, Middlesex. All future communications should be addressed to Mr. Walter Foster, the proprietor.

A NEW COMPANY.

G. and A. Clark, Limited, capital £20,000 in £1 shares (10,000 5 per cent. cumulative preference). The object is to adopt an agreement with G. Clark and A. Clark for the acquisition of the business now carried on by them at Dover Folkestone, and elsewhere in Kent, and to carry on the business of nurserymen, seedsmen, florists, gardeners, &c. No initial public issue. The first directors (to number not less than four or more than eight) are G. Clark, A. Clark, A. Banks, L. G. A. Ulden, and J. H. Smithen. G. Clark and A. Clark are governing directors. Registered office, Maison Dieu Nursery, Maison Dieu Road, Dover.

Mr. ROBERT SYDENHAM, who, a short time ago, left English shores under medical orders, has arrived at the Cape of Good Hope, from which he has written stating that he is wonderfully better for the trip, and that he hopes to return home in November.

ANSWERS TO CORRESPONDENTS.

*** EDITOR AND PUBLISHER.—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

ANANASSA SATIVA VARIEGATA: J. W. This being a sport from the wild species probably, the fruit will doubtless possess too much acerbity to be pleasant eating. The fruits of the unimproved Pineapple are very apt to cause soreness of the tongue and palate, as we once knew to our cost.

APPLE-STOCKS FOR DWARF TREES AND BUSHES, &c.: G. D., Young Gardener. The broad-leaved Paradise and the Doucin Apples make the best dwarfing stocks for the Apple. A very light soil is not suitable for Apple cultivation, but it may be made to grow good fruit by deep trenching and the addition of heavy loam and mulches of manure in the summer months, and liquid-manure applied in the winter. In very heavy soils it is advisable to form mounds 1 or 1½ ft. high in the middle and sloping away at the sides, planting the tree at the top of each mound. Heavy land should be drained with rubble-drains laid 4 feet deep and 25 feet apart, and even light land may need draining if the water-level be high, say 1 foot from the surface. There is no book published on the subject of stocks for fruit-trees, but you would find much

useful information in *The Art of Grafting and Budding*, by Chas. Baltet, published by Mr. W. Robinson at the *Garden Office* in 1873, but which is probably out of print, and only to be obtained at the old book shops.

CHRYSANTHEMUM FOLIAGE: *F. H.* The leaves sent are affected by the fungus *Puccinia Hieracii*, the too-well-known rust, described in *Gardeners' Chronicle*, October 8, 1898. Spray when the plants are making their growth with potassium sulphide, at the rate of $\frac{1}{2}$ oz. to one gallon of water. The only thing to be done now is to isolate affected plants, and pick off and burn all leaves that show signs of the rust.

CLUBBING IN BRASSICAS: *H. L.* The note by Mr. Massee referred to on p. 163 by H. T. W., Carricklee, will be found in the *Gardeners' Chronicle* for February 7, 1903, p. 94, under the heading "Scientific Committee."

CRIMSON RAMBLER AND OTHER ROSES: *F. W. M.* Take slips of ripe wood 12 inches in length in October, top them, that is, cut off the unripe tips and the middle lobe of each leaf that is left above ground, then with a dibber make holes 8 inches deep in land dug one good spade's depth, put into each hole one cutting, then put in as much sharp sand as will half fill the hole, raise the cutting an inch or two, and press it down again firmly, then fill in the hole with soil. Let the lines of cuttings be made a foot apart, and the cuttings stand at 6 inches apart; make the ground firm before the work is begun. If the Rose slips are received before the bed is ready for them, if in bundles, untie them and lay the butt-ends deeply and thinly in moist soil in a shady place. The place you suggest for the Rose fence will suit the plants admirably. Stable and pig-dung, half decayed, is good for Roses. The cutting-bed may face east or west.

CYCLAMEN GRUBS: *T. T.* Grubs of the common weevil—very destructive. Trap them with slices of Carrot.

DAHLIA: *D. H.* The catalogues describe the variety *Lady of the Lake* as single-flowered, therefore neither of the blooms you send can be this one.

EMPLOYMENT IN A NURSERY: *F. O. Lindborn.* As you seem to have a little acquaintance with the English tongue, you should find no difficulty in obtaining employment by advertising in this journal. Please address the Publisher concerning this matter. We will ask him to send you the tariff of prices for "Want Places" advertisements.

FRENCH CATALOGUE: *A Reader.* If you apply to Messrs. Vilmorin, Andrieux & Cie., Quai de la Mégisserie, Paris, or at 24, Mark Lane, London, E.C., they may be able to give you a copy of their catalogue. We believe the firm issues French and English editions.

GLOXINIA: *J. R.* Gloxinia flowers of the type you send were common many years ago. The peculiarity is due to an outgrowth from the normal corolla; and it is interesting to observe that the rich colour on the outgrowth is on the reverse side. We are not surprised to hear that the peculiarity has been more or less "fixed."

INSECTS: *C. H.* *Sirex gigas*, the Giant Sawfly or Wood-wasp (fig. 76); very destructive to Coniferous trees, in the wood of which the female deposits her eggs by means of an ovi-positor, with which she pierces through the bark.

INTRODUCTION OF THE ELM IN THE REIGN OF QUEEN MARY (?) *Helen M. Everard.* The Elm is a native of Europe, North America, and parts of Asia and Africa, extending as far south as Barbary, and as far north as Russia. It has been a well-known tree since the time of the Romans. There are about forty places in England mentioned in the *Doomsday Book* which take their names from the Elm, vide *London's Arboretum et Fruticetum Britannicum*, p. 1373, vol. iii. The commoner species, *Ulmus campestris* and *U. montana*, seem to be truly distinct, although there are many varieties raised from seeds. The late Mr. Masters, of Canterbury, who paid great attention to the

genus, considered that the Huntingdon Elm, raised about the middle of the eighteenth century, to be identical, or apparently so, with the American Elm, *U. americana*; and that *U. glabra* and *U. major* seem intermediate between *U. campestris* and *U. montana*. *U. campestris* must have been a common tree in this country from very early times. The tree rarely produces seeds in this country, and was and is mostly propagated from cuttings (stakes) or suckers, which it produces plentifully from the old roots.

LEAVES DISFIGURED: *M. W.* We do not think the holes are the result of fungus, but of some insect. Observe them at night. The leaves of Peach trees, if attacked badly with *Cercospora circumscissa* (Shot-hole fungus) would be likely to fall sooner than they should do.

MISSPRINT UNDER SPECIFIC NAMES in Gardeners' Chronicle, September 5, p. 180, col. 2, line 26. "novæ-zelandicæ" should be "nova-zelandica."

NAIL-GALL ON BEECH: *J. H.* The work of a fly, *Cecidomyia fagi*.

NAMES OF FRUITS: *A Correspondent* has sent several ripe Plums and an Apple packed in newly-mown grass. It is not surprising that the grass became heated and hastened the

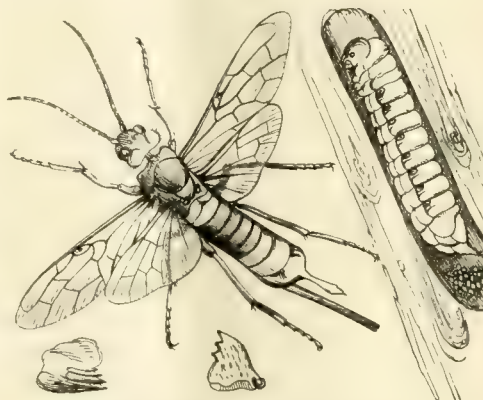


FIG. 76.—*SIREX GIGAS*, THE GIANT SAWFLY.

decay of the Plums. The Apple is *Duchess of Oldenburgh*.—*Letellier, Fils & Cie.* The Apple is the variety *Lord Derby*, a very good culinary fruit.—*H. O.* Fig *Negro Largo*, one of the largest and best Figs in cultivation.—*Constant Reader*, 1, Ecklinville Seedling; 2, *Duchess of Oldenburgh*; 3, *Cox's Orange Pippin*; 4, *Red Astrachan*; 5, *Green Woodcock*; 6, *Stirling Castle*.—*C. H. Whitlow*, 1, *Norfolk Beefing*; 2, *The Queen*; 4, *Lady Sudeley*; 5, *Cellini*; 6, not recognised.—*G. P. K.* 1, *Worcester Pearmain*; 2, *Minchul Crab*.—*C. B.* Figs: 1, *Versailles*; 2, *Brunswick*.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*W. L.* *Catalpa bignonioides*.—*J. B.* 1, *Polygonum cuspidatum*; 2, *Choisya ternata*; 3, *Pyrus salicifolia*—we cannot tell for certain from the specimen sent.—*E. B.* Forms of *Statice sinuata*.—*E. C. C. D.* 1, *Abelia floribunda*; 2, *Veratrum nigrum*.—*W. M. A.* 1, *Cassinia fulvida*; 2, *Tellima grandiflora*; 3, *Betonica carnea*; 4, *Agrostemma Githago*.—*R. H. W.* 2, *Veronica speciosa*, very good form. *A. Dalling*, 1, *Sedum arboreum cristatum*; 2, *S. pruinaum*; 3, *S. Fosterianum* probably, rather poor specimen; 4, *Santolina viridis*; 5, *S. v. alba*; 6, *Coreopsis verticillata*.—*W. H. D.* Probably a species of *Malcolmia*; cannot be certain without specimen with fruit.—*W. Comfort*, *Linaria bipartita alba*.—*K. W.* *Monstera deliciosa* syn. *Philodendron pertusum*. The fruit is very good eating when quite ripe and peel removed.—*F. H.* We cannot name the plant from a leaf only.—*J. R.* *Othonna crassifolia*, a good basket plant, even for the dwelling-house.—*C. D. V.* 1 and 2, forms of *Cupressus Lawsoniana*; 3, *Retinospora ericoides*; 4, *Cryp-*

tomeria japonica; 5, *Sequoia sempervirens*; 6, *Picea grandis*.—*J. J. N., Bury*, 1, *Asplenium trichomanes*; 2, *Cupressus funebris*; 3, *Asparagus plumosus*; 4, *Adiantum capillus Veneris*; 5, *A. Waltoni*; 6, *A. Pacotii*.—*Cornubian*, 1, *Cypripedium* × *polystigmaticum* (*Spicerianum* × *venustum*); 2, *Epidendrum umbellatum*; 3, *E. (Diacrium) bilamellatum*.—*E. W. R.* 1, *Ophiopogon Jaburan variegatum*; 2, *Cyperus longus*; 3, *Dracena Sanderiana*.—*V. M.* 1, *Stanhopea oculata*; 2, *Gongora quinquenervis*; 3, *Restrepia antennifera*; 4, *R. trichoglossa*; 5, *Bulbophyllum tremulum*; 6, *Cirrhopetalum picturatum*.—*D. S., Devises*, 1, *Cestrum fasciculatum*; 2, *Phygellus capensis*.—*B. R., Aberdeen*. The Fern is *Athyrium filix femina corymbiferum*, a crested form of the common "Lady Fern."—*J. B., Glosster*, *Chenopodium purpureum* of gardens.—*Japonica*. We cannot undertake to name varieties of florists' Carnations.

NEW WHITE GRAPE: *B. W.* We are sorry to be unable to appreciate this variety. The berries are disagreeably acid and astringent. They lack sweetness and flavour.

PHYSALIS FRANCHETTI DYING OFF IN THE OPEN GROUND: *S. W. F.* The primary cause of the death of the plants seems to have been a small boring insect (caterpillar), but none was found in the stems, &c. Wherever the creature had entered the tissues had decayed, the injury extending upwards and downwards. If the plants that are not so far gone as those sent were examined, the caterpillars might be discovered in the roots and stems in a living state.

QUICKEST MODE OF RAISING ROSA RUGOSA PLANTS: *E. F. C.* Let dwarf Rose stocks (*Dog Rose* or *Manetti*) be potted in late October, and tongue or wedge-graft these in the first week of the new year, in a temperature of 58° to 60°, using warm grafting-wax to cover the point of union. These, if grown in an intermediate-house, will make nice plants if once stopped by the month of May, and some of the strongest may produce flowers at about that season, or earlier. Seed is long in vegetating, and cuttings struck cold will not make roots in less than six months, or produce flowers till the second year. Soft cuttings struck in heat in the spring make nice little plants by the autumn, if afforded suitable cultivation. Layering cannot be recommended when large quantities of plants have to be secured.

SIX BEST TOMATOS FOR MARKET: *Grower*, *Ham Green*, *Perfection*, *Conference*, *Hathaway's Excelsior*, *Lister's Prolific*, and *Frogmore Selected*. If a yellow-fruited variety be wanted, take *Golden Queen* or *Golden Jubilee* (*Veitch's*).

TEMPERATURES: On p. 176, under "Provinces," the words "North of Scotland" and "Home Counties" were reversed.

THORN-HEDGE: *H. D.* The injury is caused by a well-known fungus parasite, *Pleospora oxycanthæ*, which gives to Hawthorn hedges and bushes the appearance of having been scorched.

VINE-LEAVES: *J. L.* We can discover no fungus disease. The injury is more likely to be due to scorching.

ZONAL PELARGONIUMS: *Dodo*, 1. If a plant be repotted in early autumn, and be induced to make fresh roots before winter, and be kept only moderately moist at the root, it should "start again" in the spring, without heat, or with very little. 2. Clay's fertiliser or Peruvian guano. 3. Cuttings are made by making a short transverse cut immediately under a node. 4. Loam, three-quarters; leaf-mould, one-quarter; and a small quantity of fine sand if the loam be of a heavy nature.

COMMUNICATIONS RECEIVED.—*E. B.* (the report is unsuitable).—*M. Roemer*.—*H. E.* *Hurstpierpoint*.—*A. D.*—*A. A. Pettigrew*.—*H. J. C.* (impossible this week, but shall appear in next issue).—*B. E. & Co.*—*E. Newstead*.—*G. S.*—*F. C. H.*—*P. O.*—*R. J. A.*—*E. M.*—*W. J. T.*—*W. Harris*, *Jamaica* (with thanks).—*Chambre Syndicale des Horticulteurs, Belges*.—*Constant Reader*.—*Heinrich Henkel*.—*R. P. B.*—*R. D.*—*H. M.*—*S. A.*—*W. S.*—*R. M. D.*—*H. W. W.*—*G. B.*—*J. S.*—*A. B. S.*—*E. B.*—*F. B.*—*E. S.*—*J. Y.*—*B. A.*—*J. H. R.*—*C. W. S.*—*T. W.*—*C. O.*—*H. W.*—*R. E. & Co., Ltd.* We have no responsibility for the *Garden Annual*. It is published at 17, Farnival Street, Holborn.—*Dr. M.*

(For Markets and Weather, see p. 2.)



RIVER-SIDE SCENE IN GARDENS, MOUNT USHER, CO. WICKLOW.



SUSPENSION BRIDGE OVER VARTRY RIVER, MOUNT USHER, CO. WICKLOW.

THE

Gardeners' Chronicle

No. 873.—SATURDAY, SEPT. 19, 1903.

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A WEST INDIAN HURRICANE.

CULTIVATORS in the British Islands have frequently to contend with heavy falls of snow, injurious hailstorms, disastrous frosts, blighting winds, and cold rains, any or all of which severely tax the patience and pockets of agriculturists and horticulturists. In the tropics we are free from these serious drawbacks. With us sunshine is the order of the day from January to December, with few exceptions. We are not, however, without our troubles and trials, frequently of the most trying nature. It is a matter for mutual and sincere congratulation if our seasonal rains come when they are due, and if they are propitious everyone is pleased and happy, as good rains mean good crops.

Jamaica being a country that depends entirely on agriculture for its prosperity, it will be readily understood why seasonal rains bring gladness to all. But it frequently happens that the expected rains do not come at the right season, or perhaps not at all, then everyone and everything suffer. A scarcity of water, with a temperature of about 90° Fah. in the shade, are not enviable conditions. When such droughts occur everything languishes; tender plants perish, plantations of every kind suffer terribly, and cattle die in the pastures from starvation and thirst.

When the long-looked-for rains do arrive after a period of drought they usually come in torrents, and do immense damage to roads and works. This, however, is all soon forgotten, everyone is so pleased to see rain again that the damage caused is only of momentary consideration. Nature assumes

a smiling countenance, vegetation and animals soon revive, and the planters for the time-being are happy, being thankful that their losses were not heavier.

But what a difference may be observed in the aspect of affairs after the visitation of that most dreaded of all the misfortunes that we are subject to—the devastating hurricane! Its effects are usually disastrous in the extreme. On August 8th we were warned that a hurricane was approaching Jamaica from San Domingo, and would probably strike this island on the 10th. The 10th was a squally day, and along the northern coast the weather was boisterous; but it was not till 3 A.M. on the 11th that the storm burst upon us in full force, and from that hour till after 6 A.M. it wrought havoc. Port Antonio, on the north-east coast, the principal Banana-shipping port and a most important business centre, was practically wiped out. Other ports on the eastern and northern coasts shared much the same fate. Vessels were sunk or driven ashore, buildings of all kinds were demolished or seriously damaged, huge trees were uprooted or denuded of limbs and foliage, Cocoa-nut Palms were wrenched out of the ground or broken off short, the Bananas went down like Oats before the reaper, and nothing escaped the fury of the tempest. Telegraph and telephone-poles were blown down and roads were blocked, and for a time all the means of communication were disorganised, so that it was nearly a week before the full extent of the damage caused by the storm was generally known. We now know that all kinds of cultivation have suffered severely. All Bananas that stood in the path of the hurricane were blown down; and as the Banana was our chief article of export, it will be readily understood that we have received a staggering blow.

In the last financial year we exported over 14,000,000 bunches of Bananas to the United States and to England, and there was every indication that this immense total would have been largely exceeded during the current year. Fifteen to twenty steamer cargoes of this fruit were leaving the island every week, and with one fell blow this large volume of trade has been brought to a standstill.

The Banana of all tropical plants is least able to withstand a storm. The plant is a surface-feeder, and its roots do not penetrate the soil to any considerable depth; its tall, spongy stem is usually top-heavy with its crown of broad leaves and large bunch of fruits, and as the plantations are either in wet districts or in lands that are constantly irrigated, the soil does not render much assistance in anchoring the plants, so that even in a moderate gale they are blown over by the thousand.

Many planters have invested all their capital in Banana cultivation, and it will be a difficult matter for them to put their plantations in order and cultivate them for ten to twelve months, the time required to produce another crop of fruit, without financial aid.

During the last few years very large numbers of Cocoa plants have been put out, and it is reported that some of the finest Cocoa plantations have also been destroyed. Bread-fruit and Avocado Pear-trees are extensively grown wherever the conditions required for their growth are favourable.

The trees of both species were laden with fruits just maturing, but these were all blown off where the trees were not uprooted or shattered. The Bread-fruit especially is an important food product, and the loss of this crop is itself a serious one. All Oranges, Grape-fruit, Coffee, Pimento, &c., in exposed situations have been more or less seriously damaged. Fortunately some of the more important Orange-producing districts in the central parishes escaped the storm, or were only slightly affected by it, so that the Orange crop is partially saved. The extensive plantations of Cocoa-nuts along the northern coast were, as might be expected, terribly shattered, and it is estimated that on some of the extensive plantations two-thirds of the trees have been blown down.

The peasant proprietors, especially in the eastern end of the island, where the hurricane was more severely felt, are comparatively heavy losers. The small landowner likes to surround his dwelling with a little of everything. He grows a patch of Coffee, Cocoa, Sugar-cane, Maize, Sweet Potatoes, Cocoas or Eddoes, Red Peas (Haricot Beans), Yams, Cassava, &c., and a few each of Bread-fruit, Avocado Pear, Mango, Coconut Palms, Orange, Grape-fruit, Limes, and perhaps a Naseberry and Star-Apple, with of course Bananas and Plantains, and many other fruits and vegetables, the kinds of products grown depending largely on the size of the holding and its location—e.g., in a holding at 500 feet altitude the owner can grow Cocoa and Coffee, but at 3,000 feet altitude Cocoa would have to be dropped from the list. Then, again, in some districts the Mango will not fruit, whilst in others the Bread-fruit will not thrive; some localities produce good Yams, whilst others are more suitable for Cocoas or Eddoes; so that every cultivator must of necessity choose the product that can be profitably grown in his district; but in every case there is a fairly long list from which to choose, and advantage is taken of this to grow a varied assortment of trees and food-plants.

A great many of these small growers have lost practically everything, including their houses, but if afforded prompt assistance they will recover their losses, although in the meantime they may have to endure a considerable amount of hardship. The majority of them grow nearly everything they require in the way of food, and dispose of the surplus in the local markets. In this way they were able to get a little cash wherewith to purchase clothing and other necessities, and the sudden deprivation of the means of obtaining ready money will seriously inconvenience them.

THE PUBLIC GARDENS.

All the public gardens are situated in the eastern end of the island, and they have all been much damaged, three of them seriously. Those that have suffered most are the Hill Gardens, situated in the Blue Mountains, at an altitude of nearly 5,000 feet above sea level; the Hope Gardens, in the Liguanea plain at the base of the hills, altitude 600 to 700 feet; and the Castleton Gardens, in the Wag Water valley, about 11 miles from the northern coast, and nearly 500 feet above sea level. These three gardens are practically wrecked. They look as if hordes of savages had been let loose in them for the express purpose of destroying everything that they contained of value or of beauty.

At the Hill Gardens grand trees of *Eucalyptus Globulus* and other species, *Pinus*, *Dammara*, *Gordonia*, *Acacias*, &c., are uprooted. Nearly every large tree has been blown down. The once handsome Tree-

and it is doubtful whether many of those that are left will survive the injuries inflicted by the hurricane. Many fine specimen trees that adorned these gardens are lost or severely injured. *Spathodea cam-*

seriously damaged. The collection of imported Orchids growing on blocks and in baskets underneath the shade of the double row of *Divi-divi* trees was sent flying in all directions, and the plants are terribly battered and bruised. This was one of the largest and most valuable collections of imported Orchids in the West Indies. It contained nearly all the best *Cattleyas*, *Lælias*, *Oncidiums*, *Epidendrums*, *Dendrobiums*, *Aërides*, *Vandas*, *Phalænopsis*, *Stanhopeas*, &c., most of which were obtained from various sources in exchange for Jamaican species. The collection has been roughly treated and much damaged, but the plants will recover, and they will again delight the numerous visitors who come to see them when they are in flower.

The nursery is a very important branch of the work carried on at the Hope Gardens. About 100,000 plants of *Cocoa*, *Coffee*, *Nutmeg*, *Kola*, *Sugar-canes*, rubber of sorts, fruit-trees and timber-trees of many kinds, &c., as well as many ornamental shrubs and trees which as young plants are annually distributed at nominal rates, or free of charge, to all parts of the island from the nursery. The nursery usually contains a stock of 200,000 to 250,000 young plants in beds and in Bamboo pots placed under the shade of trees. The shade and shelter trees were nearly all blown down, crushing large numbers of the young plants beneath them, and exposing to the sun and wind those that were not crushed.

The Castleton Gardens are in a state of chaos. These beautiful gardens have been wrecked thrice by hurricanes in twenty-three years—in August, 1880; August, 1886, and August, 1903.

In August, 1886, many valuable trees that escaped the hurricane of 1880 were destroyed. Since that time others have grown up, and many specimens that were then small have arrived at maturity and were flowering and fruiting. The gardens may be roughly divided into four sections: 1st, the Economic grounds, containing collections of *Coffee*, *Cocoa*, *Nutmegs*, *Cloves*, *Cinnamon*, *Vanilla*, rubber of various kinds, tropical fruit-trees, &c.; 2nd, the Arboretum containing a collection of timber and other trees; 3rd, the Palmetum, containing an extensive and magnificent collection of *Palms*; and 4th, the Ornamental portion, containing a large, and varied assortment of ornamental trees, shrubs, climbers, &c.

It would be much easier to enumerate the trees that have partially escaped the fury of the storm than to give a list of those that are uprooted or otherwise destroyed. There is scarcely a *Nutmeg-tree* left standing; the *Cloves*, *Rubber-trees*, *Kola-trees*, and others of economic value are nearly all lying on the ground; the *Lit-chi* trees, *Butter-nut*, and many other fruit trees are destroyed; the trees of *Mangosteen* are standing, fortunately, but they are leafless and form a curious sight. The *Mangosteen* is a low bushy tree with an abundance of thick, leathery leaves. Absolutely every leaf has been torn off. One tree was laden with fruits just ripening, and strangely enough, whilst a large portion of the crop was blown off, about 200 of the fruits still remain on the tree. The fine specimens of *Attalea Cohune* growing on either side of the entrance-gate are leafless, and a grand specimen of this noble Palm in the Palmetum has been blown down. All the *Palms* have suffered very much. A



FIG. 77.—PASSIFLORA ELULIS. (SEE P. 203.)

Ferns are now bare stems, and everything presents a woeful appearance.

At the Hope Gardens all the magnificent *Guango* (*Pithecolobium-Saman*) trees, that were such a prominent feature in the grounds, have been uprooted or so denuded of their hugelimb that they present a sorry spectacle,

panulata, *Pterocarpus indicus*, *Peltophorum ferrugineum*, *Kigelia pinnata*, many *Cæsalpinia coriaria*, the whole grove of *Olives*, many *Juniperus*, and *Pithecolobium dulce*, are only a few of the trees now lying flat upon the ground. The fine specimen of *Oreodoxa regia* is leafless, and other *Palms* are

tine tree of *Corypha elata*, with its immense leaves, that might easily have sheltered twenty people from a shower of rain, has not a leaf left. The huge blades must have offered great resistance to the wind, the powerful leaf-stalks being twisted like pieces of thick rope, and the leaves hanging limp and useless.

The magnificent Royal Palm (*Oreodoxa regia*), which has been photographed hundreds of times by visitors to the Gardens, is now a lofty, leafless trunk. I have, however, seen it in the same condition before, and it will quickly set to work to replace its majestic crown of leaves. All the Palms that have not been blown down will recover in time. Two trees of the Wine Palm, (*Caryota urens*), about 50 feet and 60 feet high respectively, are down, as are many other noble specimens. A magnificent tree of *Pachira insignis* in full bloom, and a grand old tree of *Lagerstroemia Flos-reginæ* were uprooted. The Banyan and other species of *Ficus* were not likely to be uprooted, but the trees are dreadfully shattered. All the shelter sheds for ornamental pot plants were blown down, and large numbers of the plants are ruined. The handsome Tree Ferns (*Cyathea arborea*), that every visitor admired, are mere bare poles.

But further details would be wearisome; a mere list of the trees and plants destroyed would fill several columns of the *Gardeners' Chronicle*. Gangs of men are now busy with axes, cutlasses and saws, cutting up trees that a few days ago were the glory of our public gardens. The careful labour of years was practically wiped out in a couple of hours by this fearful storm—a storm that will never be forgotten by those who experienced it. Fortunately our soil is marvelously fertile as a rule, and plant growth is extremely rapid, so that in a year or two there will be few traces left of the hurricane of 1903. The Bananas are already making vigorous growth, and next year there will probably be an enormous crop. Coconut Palms, Bread-fruit, and other trees cannot be replaced so readily, but it is merely a question of time. What is urgently needed now is financial aid to enable the planters to employ labour to put their buildings and plantations in order; and it is reported that the Government is arranging to give such aid in the shape of loans to those who need temporary assistance; also that seeds of quick-growing food-crops will be distributed amongst the peasantry who have lost their crops, and that they will be helped to rebuild their small houses. In the meantime, subscriptions have been opened and relief committees appointed to give immediate assistance to all poor persons who are in want of food, clothing, or shelter. W. H., Jamaica, August 24, 1903.

PASSIFLORA EDULIS.

As there seems to be some doubt in gardens as to the true *P. edulis* we give an illustration (fig. 77, p. 202), which will enable the gardener to recognise the fruit, especially when we add that it is of a purplish colour. It is not a fruit to put before a hungry man, for there is but little substance in it, but the perfume is delicious. Many of the *Passifloras* possess fruits which are well suited for the preparation of preserves, and the *Granadilla*, *P. quadrangularis*, is particularly deserving of notice in this connection. Still better are the gigantic fruits of *P. macrocarpa*, which seems to have slipped out of cultivation, though very

remarkable not only as a stove climber with noble foliage and attractive flowers, but as producing in abundance gigantic fruits which, as we have said, are excellent used as preserves. There is a notion that this species is only a variety of the better known *P. quadrangularis*, but though there is considerable similarity between the two species, yet the construction of the flower furnishes ample points of distinction between them.

NEW OR NOTEWORTHY PLANTS.

LÆLIO-CATTLEYA × ELEGANS VAR. PURPURASCENS.

In the Right Hon. Lord Rothschild's gardens, Tring Park, Mr. E. Hill has had a very fine show of remarkably good varieties of this beautiful natural hybrid between *Lælia purpurata* and



FIG. 78.—A VASE OF LUPINES.

THE LUPINE.

THERE are few more showy perennials than the Lupines, blue or white. Their soft, palmately divided leaves, which throw off the drops of water as from the proverbial duck's back, and their noble spikes of flowers render them very ornamental. They prefer a rich, moist soil, and require a minimum of trouble. They are readily propagated, either by division or from seed. The yellow-flowered Lupine is largely grown as an agricultural crop on the Continent, and as the horizontal tiers of blooms are separated by wide intervals, the spikes, when seen at a distance, as from a railway carriage window, appear striped and barred, producing over the whole field a singular appearance. Our illustrations (figs. 78 and 79) have been prepared from photographs supplied us by Mr. J. Bradbury, Haywood Park, Sheffield.

Cattleya Leopoldii, but at all points the new variety *purpurascens* is superior to any which have previously flowered. The inflorescence has five flowers, each 7 inches across the extended petals from tip to tip, and all the segments are proportionately broad and well displayed; the petals, which are usually rather narrow in this plant, measure in this case over an inch and a half wide, and they are of fine substance. The chief attraction of the flower, however, is that its sepals and petals are of a uniform glowing, light purple colour; the column, tips of the side lobes and massive front lobe of the lip being of a darker tint of the same bright purple colour. The lower parts of the side lobes of the lip are white. It is a remarkably showy plant, and superior to any of its class, either natural or home-raised hybrids. J. O'B.

PARIS.

THE TUILERIES GARDENS AND THE JARDIN DES PLANTES.

PARIS, in spite of intermittent showers, is as bright as ever. Of course, being the vacation season, everyone is still at Les Eaux or at Les Bains de Mer. For all that, the principal streets are about as empty as Cheapside at mid-day, and the "Metropolitain" disgorges from the subterranean regions at every few hundred yards shoals of people as it were from the very pavement, for there are no above-ground offices at all. The Tuileries gardens have altered very little during the last half-century, and they are so brilliant and so gay that there seems little necessity for change; they are adapted to their surroundings, which, after all, is the main thing, and as instruction is not in any way aimed at, we need not

whole of the Louvre to form one end of that magnificent vista which extends to the Arc de Triomphe!

Around some ornamental columns near to the buildings are some magnificent flower beds, offering a blaze of mixed colour, which, though so brilliant, is by no means offensive. Round the base of the columns in question is a mound bearing circles of Cannas, Salvias, Marguerites, mixed Pelargoniums, broken up at the edges into triangular points, the groundwork of which consists of semperflorens Begonias edged with Golden Feather. All this is commonplace enough, but then comes a broad ring of really green turf, and outside this a deep circle of zonal Pelargoniums of various shades of scarlet, pink, crimson, and white all intermingled, making a most beautiful and effective display. Taken as a mere floral display, we have never seen anything to equal this in brilliancy and variety of colour. Of course, the

At the Jardin des Plantes little has changed in all these years, the same gritty paths, the same oblong beds full of flowers (much the same as in the Tuileries Gardens). A billowy mass of *Polygonum baldschuanicum* attracts attention, as well as imposing masses of the silvery-white *P. lanigerum*, such as one sees at Kew, but not in many private gardens; big bunches of *Caryopteris*, *Mastachanthus*, with their blue flowers and fragrant grey leaves; the historic *Robinia*, a veritable wreck; the Lebanon Cedar, with equal claims to veneration. *Forsythia Fortunei* seems strange grown as a standard and in bloom in September.

An avenue of Judas-trees (*Cercis siliquastrum*) grown as standards with clear stems is worth a note, for they form, so far as one can judge from one example, excellent town trees, and so far as the writer is concerned their use for this purpose is unusual.

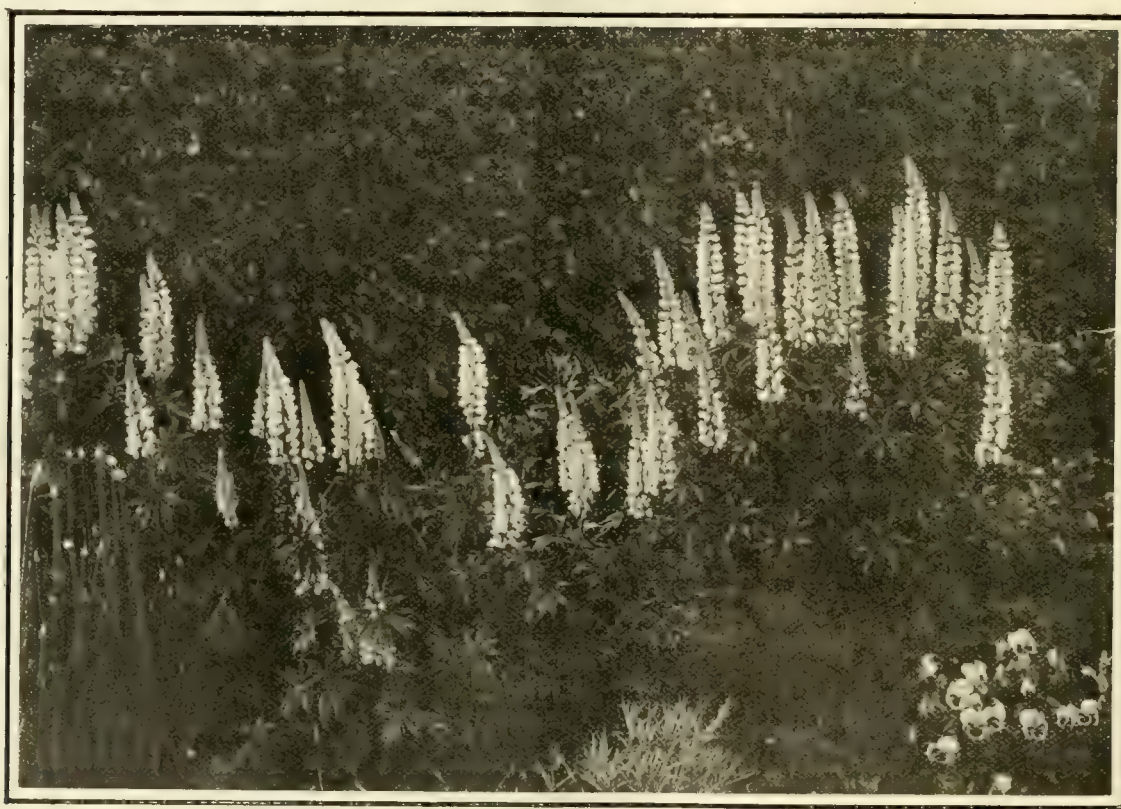


FIG. 79.—A PRETTY GROUP OF LUPINES. (SEE P. 203.)

regret the lack of interest and the deficiency of higher aims when the object is solely to please the eye. The old-fashioned narrow borders are still here, but the Ivy edgings are dispensed with, although the standard *Hibiscus* remain at regular intervals like sentinels. They have been there for half a century and perhaps longer, and now that they are in full bloom they look well, interspersed with a few standard *Roses* and tall *Dahlias*, all of the Show and none or but few of the Cactus section; and peering above a groundwork of gay flowers, *Pelargoniums*, *Tagetes*, *Marguerites*, dwarf *Cannas*, *Salvias*, *Fuchsias*, *Lantanas*, *Gaillardias*, and more than need be enumerated besides; but there are no sub-tropicals with their bold foliage, and no herbaceous plants such as have leaped into fashion again in England. These may be seen in other Paris gardens, but just now we are occupied solely with the Tuileries Gardens. What good work did those horrid Communards unconsciously accomplish when they destroyed the Tuileries and threw open the

whole thing is old-fashioned nowadays, and it is open no doubt to the criticism aimed at all bedding-out some years since; but for all that "the picture is beautiful," and in the heart of a great city, if beauty is obtained, a great deal else may be condoned.

An ornamental bed on green turf, which in association with architectural surroundings is effective and appropriate, consists merely of a groundwork of some deep red velvety-looking *Coleus*, dotted here and there with yellow variegated *Abutilon*, and edged with a narrow border of pale yellowish *Coleus*. Most of the Horse-Chestnuts and many of the Limes are covered with shrivelled brown leaves, as if scorched by fire. In striking contrast are a few trees which, careless of the fact that winter, not spring, is approaching, have burgeoned out into clear translucent green foliage and spikes of pinkish blossom. This anticipation of the right time is likely to be as unfortunate as would be undue retardation.

In the conservatories, which are ill adapted to modern conditions, are very many most interesting plants, of which it is not desirable here to mention a tithe. A huge *Jubæa spectabilis* is very noticeable among the Palms, and as an interesting but not altogether desirable fact may be mentioned the circumstance that a fine specimen of *Arenga saccharifera*, known to be upwards of sixty years old, is now flowering, and having fulfilled its destiny is making ready for death.

Caryota urens is in like case, but *C. cumingii*, like a prudent citizen, is making provision for the future by the production of suckers to continue the race when the parent-plant has died. Near at hand are four or five fine specimens of *Aloe Bainesi*, figured and described years ago in these columns by Sir William Thiselton-Dyer. [May 2, 1874.]

The museum is rich in *Sansevierias* and *Cacti*, and has recently obtained the collections of the late Dr. Weber, containing well-grown specimens, many of them unique. *Agave Weberi* has glaucous leaves, destitute of spines at the margins, and is a very

desirable plant, but unfortunately it produces no offsets. *A. Tequilana*, on the other hand, another very interesting species with glaucous spiny-margined leaves, produces offsets freely.

Trevesea sundaica, a curious Araliad, is in flower, but it appeals to the botanist chiefly, not that it is by any means unattractive. A similar remark may be made with reference to those very

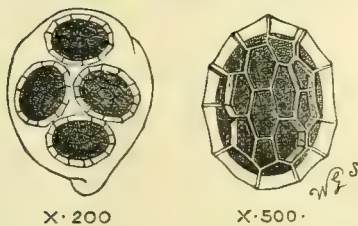
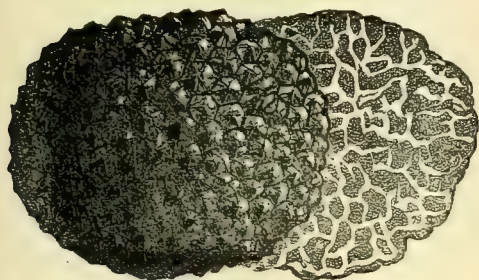


FIG. 80.—THE BRITISH TRUFFLE: TUBER AESTIVUM.
(See "Edible Fungi" on p. 214.)

remarkable plants the two species of *Didiera* and the one of *Fouquieria*, both mentioned in these columns previously. But any attempt to empty the contents of our note-book before the eyes of the reader would be to inflict upon him a trial which we have too great a respect for him to do, and therefore bring these disconnected fragments to a close. *The Rambler*, September 10.

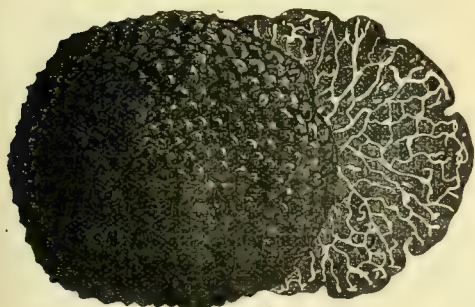


FIG. 81.—THE FRENCH TRUFFLE: TUBER MELANOSPORUM.
(See p. 214.)

ORCHID NOTES AND GLEANINGS.

ANGRÆCUM FALCATUM.

A NUMBER of nice specimens of this graceful Japanese species in the Orchid-houses of Mr. G. W. T. Shrubshall, Ion Nursery, Thornton Heath, are affording a good show of flowers. There is at this nursery an interesting selection of other uncommon Orchids to be seen, and further accommodation for Orchid-culture is being made. The tufts of the *Angræcum* have

from three to six spikes each, and these bear four or five pure white flowers on pedicels about 2 inches in length, the slender curved spurs of the flowers being of about the same length. It was the first species of *Angræcum* cultivated in Europe (about 1813). It is an easily-grown plant, and may be flowered in the cool Orchid-house or greenhouse.

EPIDENDRUM PRISMATOCARPUM.

A good example of this species comes from Mrs. Goodden, Compton House, Sherborne. The erect, many-flowered raceme bears flowers each about 2 inches across, and all of the segments are narrow. The sepals and petals are yellowish-white, the former having many purplish-chocolate-coloured spots, and the latter fewer and smaller spots of the same colour. The base of the lip and column is white, and the acuminate front lobe rose colour. It was first discovered in 1849 by Warszewicz on the volcano of Chiriqui,

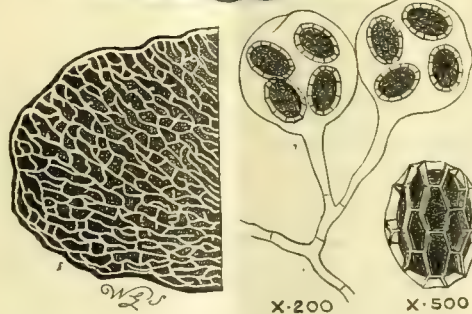


FIG. 82.—THE ITALIAN TRUFFLE: TUBER MAGNATUM.
(See p. 214.)

Central America, at a height of about 5,000 feet, but it has at no time been a common plant in gardens, probably on account of its being often grown in houses of too high a temperature. It should be kept in a cool part of the intermediate-house, along with *Lycastes*, &c.

INSECTICIDES AND FUNGICIDES.

THE following list of the principal insecticides and fungicides, and notes as to their uses and adulterations, has been prepared by Mr. H. A. Ballou, B.Sc., Entomologist on the staff of the Imperial Department of Agriculture for the West Indies:—

Paris-green, London-purple, and Arsenate of lead, which are known as "stomach poisons," are adapted for use against such insects as are able to bite off portions of their food and swallow the fine particles. Any poison which may be applied to such food would therefore be swallowed and have an opportunity of acting upon the insect.

These poisons would have no effect upon sucking insects, which merely penetrate the tissues of the plant or animal on which they feed, and suck out the juices from within. In dealing with them, a "contact poison" must be used, such as soap solution, whale-oil soap, kerosene oil, and kerosene emulsion. Tobacco, hellebore, and pyrethrum may also be included in this list. These contact poisons all act in the same general way, that is, by stopping up the breathing pores in the sides of the insect's body and thus causing suffocation. Carbon bisulphide and potassium cyanide are used against those insects that are difficult to reach with either stomach or contact poisons, such as borers, ants, underground insects, insects in houses, insects in grain bins, &c. These two insecticides are, however,

poisonous, and their use, except by an expert or one well acquainted with them, is attended with considerable danger. Hellebore, pyrethrum, tobacco, lime, and sulphur all have their uses both as contact and stomach poisons, but more especially as contact poisons for use against soft-bodied insects, such as grubs, sun-fly larvae,

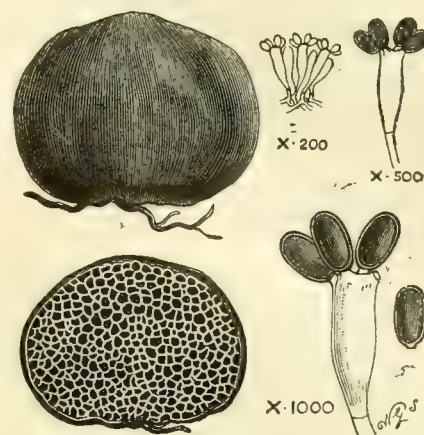


FIG. 83.—THE RED TRUFFLE OF BATH: MELANOASTER VARIEGATUS. (See p. 214.)

fleas, plant lice, &c. Of these, pyrethrum and tobacco are probably the most valuable.

Lime, sulphuric acid, and copper compounds are the principal materials used as fungicides. The combination most generally employed is a mixture of lime and copper sulphate, known as Bordeaux-mixture. The ammoniacal solution of copper carbonate is also well known as a fungicide. With the Bordeaux-mixture any of the arsenical poisons may also be used, in which case one spraying will serve to destroy both insects and fungi. With the ammoniacal solution of copper carbonate, however, only the arsenate of lead should be used, since the ammonia has the effect of rendering the arsenic in Paris-green or London-purple more soluble, and the arsenic will be liable to cause the burning of the foliage of the plants.

The Bureau of Chemistry of the United States Department of Agriculture has recently issued a Bulletin (No. 68), giving analyses of a large number of the in-

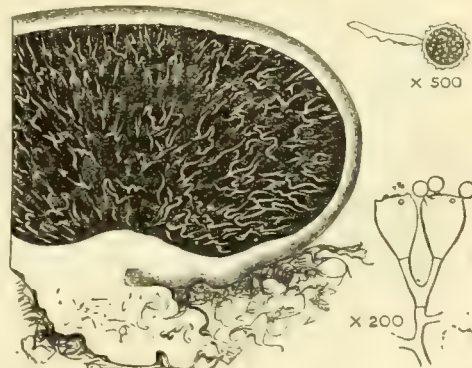


FIG. 84.—THE FALSE TRUFFLE: SCLERODERMA VULGARE.
Shown on Tuesday last at the Drill Hall (see p. 215).

secticides and fungicides offered for sale in America. These analyses show that great variation occurs in the composition of even such standard materials as Paris-green and London-purple. They further show that many of the patent preparations for the complete extermination of all insects and fungi contain nothing that could be of any value, either as an insecticide or fungicide, or even as plant-food. Others are composed largely of some neutral material, to which a little

tobacco, pyrethrum, or some arsenical poison has been added. Bordeaux-mixture can be purchased in the form of a dry powder. It is, however, better to prepare it as required, since chemical changes are liable to take place between the lime and the copper sulphate.

HOME PLACE, LIMPSFIELD.

[See Supplementary Illustration.]

THE high ground beyond Oxted, in the county of Surrey, has been chosen by several gentlemen who are desirous of making new homesteads, and although the beauties of the Bracken, Heather, Gorse, and other wild flowers growing on the uncultivated and rugged land for miles around, supply a beautiful natural garden to all alike, each proprietor has in true English fashion worked out his own ideas of a garden on the land surrounding his dwelling. Home Place, owned by Horace Barry, Esq., is a very charming garden of its kind, and its main characteristics were suggested by Mrs. Barry, whose chief pleasure and occupation are found in the garden which she has so well designed.

The house is on the highest part of the ground, and the garden, which is a modern one on old-fashioned lines, slopes from it with a natural curve which contributes much to the effect of the gardener's efforts, which have been mainly directed to the laying out of a series of nooks and small gardens, connected by pergolas, which are covered with Roses and other climbers, that are wisely allowed to grow unrestricted, so as in a great measure to conceal the structures by which they are supported.

Roses abound, climbing varieties having the greater prominence, the pergolas being mainly covered with them. This year many of the species and varieties of Roses have bloomed more finely than usual, and some of them look as if they would bloom till very late this year. From the balcony a fine view of the garden and the surrounding country is obtained. Immediately below it are some broad stone steps with a bank on either side, carpeted by the pretty Rosa Wichuriana, whose close-growing habit, abundant flowers in season, and bright, nearly evergreen leaves, render it an admirable subject for the situation; and so freely has it spread around that several species planted near are already overgrown by it. At this point the varieties of China or monthly Roses form very effective pictures, and the closely clipped Yew hedges with which some parts of the garden are furnished afford pleasing features. The house itself is covered partly with the yellow Banksian Rose and Rose W. A. Richardson, both of which have bloomed very freely, the latter flowering well even now in various parts of the garden.

On the lower level a broad border, backed by an irregularly built stone wall, which is covered with climbers and flowering shrubs, contains a wealth of old-fashioned herbaceous perennials and annuals intermingled with Carnations, Roses, and other plants with odoriferous flowers. The Roses on the pergola that forms a covered way down the middle of the garden have made very luxuriant growth, and were hanging around, at the time of our visit, in dense, graceful masses. Crimson Rambler and some of the other ramblers have made a great show this year, but scarcely so good, it is said, as in previous seasons. Blairii No. 2, Aimée Vibert, Madame Alf. Carrière, Rêve d'Or, Claire Jacquier, Lamarque, Brunonis, and Fortune's Yellow may also be mentioned as having been specially beautiful, and on the screen surrounding the croquet-ground Rosa rubrifolia is remarkably handsome, its foliage of a glaucous purple tint, with bunches of rose-purple-tinted haws, being showy and unlike any of the other species of Roses growing in this garden, all of which, however, have characteristics which recommend them to the Rose-lover.

In the lower part of the garden is a pond, in which are planted some varieties of Water-Lilies, which now find a place in most gardens of any pretensions; and to add to the floral display Ivy-leaved Pelargoniums, &c., are elevated in tubs above the water-level.

In the pleasure-ground beyond, a few very choice specimen Conifers were found, such as glauca, Abies pungens glauca and Cedrus atlantica these being perfect and beautiful specimens. On one side is a border of unusual width, planted with herbaceous perennials, at the back of which a screen of climbing Roses is planted, with many bright patches of different species and varieties of Helianthus, Phloxes, Antirrhinums, Asters, Montbretias, Carnations, and other showy flowers, among which patches of Shirley Poppies take the first place, the colour of their flowers being the softest, most varied, and delicate. In one corner is a large mass of thriving Bamboos, and within the view from this point a group of varieties of Rosa rugosa, and that beautiful and free-blooming Rose, Laurette Messimy, with its fine yellow-tinted, rose-coloured flowers. The wide border formed at the bottom of the flight of steps contains showy flowering shrubs, pillar Roses, and a fine display of herbaceous perennials in bloom.

Leading to the orchard and kitchen-garden a pergola for trained fruit-trees is being formed, and many of the trees which are to cover it have been planted; and some idea may even now be formed of its future beauty when time has brought about the accomplishment of the design.

THE GLASSHOUSES.

Although these are of modern date they are not specially cared for, being used chiefly as contributories to the outdoor garden, in the management and working of which Mr. W. Down, the head gardener, and his assistants, have plenty to do. But as in many gardens where gardening under glass does not receive much attention from the owner, some specially fine examples of uncommon flowers are to be found. For example, in the well-filled conservatory a large specimen of Hæmanthus Katharinæ, with many spikes of its scarlet stellate flowers, was observed; and at the back of the house two fine examples of Crinum Moorei, and on the roof a large specimen of Lapageria rosea var. alba. In another glasshouse a very large specimen of Hæmanthus puniceus and some fine examples of the Nerine Fothergillii were noted. In various parts of the garden and in the lawns bulbs that flower in the spring are planted, and the whole garden is so arranged that it is more or less showy and interesting at all seasons. O'B.

The Week's Work.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Sobralias.—These plants are amongst the more easily-grown Orchids, a cool intermediate house suiting their requirements if put in the lighter and more airy part of it. Where a good selection of them are grown a very effective display can be made in the months of July and August, especially if these be arranged amongst foliage plants. The species in cultivation are *S. macrantha*, *S. m. Hodgkinsonii*, and the beautiful white variety *S. m. Keinstiana*, *S. Holfordii*, *S. leucoxantha*, *S. xantholeuca*, and the hybrids, *S. Amesiana*, *S. Veitchii*, all of which are strong-rooting plants requiring ample rooting space and liberal treatment. The flowering season being over, young stems are just pushing up, and any plant that has become pot-bound should be afforded a shift into a larger pot, and if very large, divided. It is a difficult matter to separate the large fleshy roots without injuring them, and great care should be taken to preserve as many of these as possible. The divided parts

should have all loose material and broken roots removed, and be placed in pots just large enough to accommodate them. Afford good drainage and pot firmly, using a compost of equal parts of good turfy-peat, loam, and leaf-soil, adding a small quantity of moss, with plenty of silver-sand and crocks. The surface of the soil should be left 1 inch below the rim, so as to allow of plenty of water being afforded when in full growth, and at other times the soil should be kept moist. The syringe should be used freely about them in sunny weather when the plants have become re-established. This year's flowering growths may be removed, cutting them close down to the roots, tying out the new growths so that light and air can pass freely between them.

Calogyne cristata and its varieties are now rooting freely, and healthy established plants will require water almost daily till such time as the pseudo-bulbs have completed their growth, till then weak farmyard liquid-manure may be applied twice weekly. Plants that were repotted this year will not need much water, the new materials being very retentive of moisture, and a too frequent application would sour and sodden them. Light and air should be freely admitted to the plants, so as to ensure good hard pseudo-bulbs, as it is only in this way that fine flower-spikes can be obtained.

Disa grandiflora and other species of *Disa* having finished flowering will now be sending up new growths from the sides of the old flower-spikes, and the repotting of these should receive attention, the present time being the most suitable for this operation. Choose well-drained pots, and a compost consisting of two-fifths leaf-soil, one-fifth turfy peat, one-fifth turfy loam, one-fifth moss, mixing plenty of crocks and coarse silver-sand with the whole. After repotting afford water to settle the compost, and afterwards only as much as will keep it moist. Place them in a position close up to the roof at the coolest part of the Odontoglossum-house. Keep a sharp look-out for thrips and green-fly, the latter being sure to make its appearance at this season.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bickton, Budleigh Salterton, Devonshire.

Carnations.—Varieties of the Souvenir de la Malmaison section that were layered in July or early August should now be given attention by removing rooted layers from the mother-plant by the use of a sharp knife, cutting to within an inch of the new roots. Carefully pull away the soil first, so that it will be seen better where to make the cut; and when the layers have been severed, take a small fork or trowel, and gently lift each plant with as many roots as possible, and pot them into 4-inch or 5-inch pots, according to size. For the potting compost use good fibrous loam three parts, and well-decayed manure and flaky leaf-mould one part, adding a little well-broken charcoal and river-sand. Should the loam be very heavy, it may be well to use a small quantity of fibrous peat with it. Pot moderately firm, and arrange the plants on a coal-ash bottom in a cold frame, which should be shaded from the sun, and have the lights kept nearly closed for a week. If the plants be afforded water through a can having a fine rose as soon as potted, a light spraying overhead with the syringe once a day will be sufficient until shading has become unnecessary and full ventilation is afforded. When this stage has been reached it will be better to remove the plants to the Carnation-house. Tree-Carnations for blooming during the coming winter, and at present standing in the open, should soon be placed under glass. The weather is unusually wet here, and the temperature has fallen to 40° on two occasions. Arrange the plants in a light airy part of the greenhouse, and use care in affording water during the winter.

Freesias and *Lachenalias*.—Growth being active, place the plants in a cold frame which faces the south, opening the lights freely during the day, and supporting the leaves with strands of raffia after placing three or four neat stakes round the sides of the pots. *Lachenalias* may be given a similar position until frosts occur.

Cinerarias.—If large plants be required, shift the earliest batch into 7 or 8-inch pots, using a

similar soil as that recommended above for Carnations, but excluding peat. Later plants should be potted-on as they become fit into 6-inch pots, which are sufficiently large for good specimens if stimulants be afforded occasionally as the flower-stems develop. Keep a sharp look-out at night for slugs. The Leaf-miner will also quickly disfigure a plant if not searched for and destroyed. Fumigate the plants on two successive evenings should green-fly appear. Afford full ventilation by day and night, and in settled weather the lights may be removed from 5.30 P.M. to 8 A.M., the night dews being very beneficial to Cinerarias. If this is impracticable owing to bad weather, syringe the plants twice daily on bright days.

Gloxinias.—The majority will have ceased to flower, and may be placed on a shelf in an airy but warm house, and less water applied to the plants until the foliage dies away. The tubers may be wintered in the pots, or shaken out and placed in shallow boxes of sand or leaf-mould in a temperature not less than 55°. Achimenes may be treated similarly.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Morello Cherries.—In many gardens the nailing-in of the young wood is not done until the fruit has been gathered, because the shoots serve to keep the nets used for protecting the fruit from the birds away from the wall, and Morello Cherries generally colour well even if slightly shaded. Such work should not be delayed or the wood will become so hard at the base that it will be difficult to bend them into position. Lay in the shoots about 3 inches apart over the wall space occupied by the tree. Small twigs of willow or other pliant wood may be used to keep the shoots in position by thrusting the twigs under the older branches, but shreds and nails or a tie of bast will be needed at the base of the shoots. If black aphid be still present on the trees syringe with an approved insecticide at intervals of a week until the pest is exterminated.

Plums.—Trees of late varieties, such as Coe's Golden Drop, Transparent Gage, Reine Claude du Bavay, Ickworth Impératrice, Late Monarch, and Pond's Seedling, should be covered with hexagon netting, or if the fruits are few, they may be enclosed in muslin bags in order to protect them from wasps and flies. The fruits of Golden Drop and Ickworth Impératrice will keep in good condition for several weeks if gathered when perfectly dry, wrapped in tissue-paper, and placed in the fruit store.

Pears.—Early varieties will now be ripening and should be looked over frequently, gathering only those that will part readily from the stem. At Dropmore, upon upwards of 200 trees, we have not a dozen fruits, but a few miles away I have seen orchard standards carrying a heavy crop. The varieties were Hesse and Louis Bonne of Jersey. These trees were unfortunately stripped of their fruit by the gale on the night of September 10, together with a splendid crop of Blenheim Orange and Wellington Apples.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Turnips.—Make another sowing now, and it may prove to be the most useful for providing bulbs for winter and spring use. Afford the ground a good top-dressing of soot and wood-ashes. Thin out earlier sowings, and use the hoe frequently between the plants in fine weather. Dust the plants with soot when the leaves are wet. As soon as the bulbs are of a good size pull them and cut off the leaves, but not too closely, and leave the tap-root uninjured; store them thinly, placing sand or coal-ashes between the layers of roots. Turnips are best stored in ridge-shaped clamps in the open, but not in large quantities together, or they will heat and spoil.

Beet-root.—Owing to the wet season the roots of some of the large-growing sorts are likely to become too big if allowed to remain longer in the ground. These should be carefully lifted, taking care not to break the tap-roots, and twisting off

the leaves by hand. Store them in the root-room or in any cool place in finely-sifted ashes or sand.

French Beans which were sown late on a south border should have frames placed over them, but abundance of air must be admitted whenever the weather will permit. Plants raised from seeds sown in heat should be earthed-up to the seed-leaf with warmed light soil. These will require all the light possible, and fire-heat should only be employed on cold nights. Make another sowing of the varieties Canadian Wonder or Ne Plus Ultra in 8-inch pots or in heated pits, allowing only sufficient room between the glass and the soil for growth to develop.

Capsicums and Chillies growing in cold frames should now be removed into a warmer structure and be placed near the glass, where they will ripen their fruits. Syringe them freely with tepid water in bright weather. Afford weak liquid-manure at each alternate watering, and keep the plants free from green-fly and red-spider.

Globe Artichokes.—Remove heads as they become fit for use and put the stalks in about 2 inches of water, and keep in a cool place. These will last in good condition for some time if small pieces of the stems are cut away and the water changed occasionally.

Potatoes.—Should any of the late crops be still in the ground, no time should be lost in lifting them. Unfortunately the disease is causing sad injury in most places, and the sooner the tubers are out of the wet ground the better. Look over those already stored, and remove any that are affected.

FRUITS UNDER GLASS.

By T. H. C.

Winter Cucumbers.—Before setting out the plants at the end of the present month, thoroughly cleanse the interior of the house, wood-work, walls, hot-water pipes, &c., and the glass on both sides. It is absolutely necessary to provide bottom-heat for winter Cucumbers, and this is best obtained by hot-water pipes placed in a chamber separated from the Cucumber-bed by an iron grating. Upon the grating place fresh turves, the grassy side downwards, and on these raise hillocks of rich compost 4 feet to 6 feet apart according to the extent of the trellis to be covered. A good Cucumber compost consists of two parts of best turfy-loam, one part leaf-mould, and one part spent Mushroom-bed manure, to every full wheelbarrow-load of which a 3-inch potful of Veltha-powder and a little burnt garden refuse may be added. When the soil has become throughout of the same temperature as that of the Cucumber-house, set out the plants, and encourage them to grow strongly, the object being to get the trellis covered with bine before cropping the plants to any great extent, and before the short days set in. Afford a day temperature of 75° to 80° by artificial means, or 90° together with sun-heat at closing time, and a night temperature of 70°. Afford ventilation freely whenever the weather permits, syringe the plants at closing time on bright days, and maintain a moist condition of the atmosphere generally by damping down. Deal with insect pests as advised for Melons.

Muscat of Alexandria Grapes.—Vines on which ripe fruit is hanging should be well ventilated in the sunnier parts of the day, and be afforded a temperature at night of 60° to 65°, and 70° to 80° by day. If the borders received plenty of water and a good mulching of spent Mushroom-bed manure when the fruit began to colour no more water will be needed in the case of Grapes for early consumption. Vine borders, if shallow and consisting of light porous soil, should, when the soil is found to be approaching dryness, be afforded sufficient clear water as will moisten it to the bottom, choosing a fine dry morning for carrying out the work, and then applying full ventilation. In the afternoon put on a layer 3 inches thick of dry hay to check evaporation. A dry border will result in shrivelling of the berries, more particularly if the bunches are not well finished. Later Muscats now colouring should be afforded a night temperature of 70°, and one by day of 80° to 85°. Keep lateral growths closely pinched and remove diseased berries.

Late Vineries.—Apply water to the borders, and if it be thought necessary, manure-water, till the fruit is fully coloured, which should take place about the end of the month, and then allow them time to ripen thoroughly. Maintain moderately dry conditions in the vinery in dull weather, but on bright days damp the paths as usual. A night temperature of 62° to 65°, with a small amount of ventilation, and a day temperature of 70° to 80° may be afforded. Free ventilation in suitable weather may be applied.

Pot Vines.—These should now be standing in the open, and until the leaves fall the roots should not lack water; but the soil must not be allowed to get sodden with rain, means being taken to prevent moisture entering the pots.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Tender Bedding Plants.—The advent of frosty nights, however slight the degree of frost, compels the gardener to turn his attention to the housing of tender bedding-plants. Personally, I do not find it wise to bring the recently-rooted plants from the cutting-frames to the houses until compelled so to do by really sharp weather, it being of benefit to the plants to afford them full exposure so long a time as it may safely be done, and to place them close to the glass when the need for shelter arises. In the case of zonal Pelargoniums there will be no need for applying water whilst they remain in the frames. Verbenas, Marguerites, Gazanias, Ageratums and others do better in the moist and cool air of a cold frame or pit than in a greenhouse. Alternantheras, Iresines, and Coleuses should be placed where they may be afforded warmth of not less than 50°, a lower temperature being injurious to these plants. For those plants still left in the propagating-frames, mats or Frigi-domo should be kept in readiness for use in case of frost occurring.

Sweet Peas.—In localities in which the Sweet Pea can be wintered safely out-of-doors, a sowing made now will flower early next year. This flower has become such an important or, I might rather say, such a fashionable one, that a lengthening of its flowering season is always appreciated. Unless the ground is of an open friable nature, and is well drained naturally or otherwise, and the position is one that is protected from cold winds, the results are not likely to be good. Sow the seeds, which if possible should be new, rather thicker than is advisable when sowing in the spring.

Planting Evergreens.—Most evergreen shrubs may now be removed and replanted with safety, though these operations should not extend beyond the present month. Personally, I prefer the late spring for planting evergreen trees and shrubs. There is this to be said in favour of early autumn planting, the transplanted objects do not stand in need of much water at this season, which is a saving of labour; the results, however, are not so generally satisfactory as spring planting, and more deaths occur if the winter be a severe one.

Propagating Conifers.—Many of the Conifers of small growth, viz., Retinosporas, Cupressus, and Juniperus may be propagated from cuttings of the young growth at the present season. Insert in pots of sandy soil covered with sand shoots of 3 to 4 inches in length furnished with a thin heel of last season's wood with the needles cut off for about an inch at the butt-end, and place these in a light frame. They require to be carefully protected against drip and the moisture that condenses on the glass, and to be carefully afforded water. As a rule the propagation of these plants is better left to nurserymen, but given the attention demanded by cuttings of hardwood plants generally, they may be raised at home.

Hints on Current Operations.—Pay constant attention to the sweeping up of tree leaves on lawns and walks, which, if left, cause much harm to turf and gravel. In clearing up the various borders, take care not to injure bulbous plants and others which may now be on the move.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the **EDITOR, 41, Wellington Street, Covent Garden, London.** Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, SEPT. 21—National Chrysanthemum Society's First Floral Committee Meeting

WEDNESDAY, SEPT. 23—Royal Botanic Society Meet.

THURSDAY, SEPT. 24—Irish Gardeners' Association Meeting.

SALES FOR THE WEEK.

MONDAY to FRIDAY NEXT—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11.

THURSDAY, SEPT. 24—Sale of Nursery Stock at the Floral Nurseries, Castle Hill, Maidenhead, by Protheroe & Morris, at 12.

FRIDAY, SEPT. 25—Grand Importation of *Odontoglossum crispum* and other Orchids, by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—56.4°.

ACTUAL TEMPERATURES:—

LONDON.—Sept. 16 (6 P.M.): Max. 61°; Min. 45°.

Sept. 17, Light clouds, noon: 62°.

PROVINCES.—Sept. 16 (6 P.M.): Max. 56°, Penzance; Min. 51°, Holyhead.

The Value of Education and Science to the Nation.

In view of these very important subjects concerning our progress as a nation, we take the following abstracts of the notice of the first day's meeting of the British Association as given in the *Times* of Thursday, September 10:—

"The British Association opened its annual meeting at Southport on Wednesday, Sept. 9, and in the evening the President, Sir NORMAN LOCKYER, delivered his address. After referring to the death of Lord SALISBURY and to the acceptance by Mr. BALFOUR of the presidency for next year, he contended that statesmen would be obliged in the future to pay more regard to education and science as empire builders and empire guardians than they have paid in the past.

"A relative decline in national wealth derived from industries must follow a relative neglect of scientific education. Sir NORMAN proceeded to point out how, by the neglect of mental development, this country had lost much of the commercial and industrial ascendancy which she obtained in the 19th century by the early applications of science and the rapid development of her exceptional resources. A new struggle for existence, as HUXLEY long since pointed out, had begun between organised nations. What was needed was a complete organisation of the resources of the nation, so as to enable it best to face all the new problems which the progress of science, combined with other factors in international competition, was continually presenting. He insisted on the need for the scientific spirit in all departments of the State administration, as well as in commerce and industry, and therefore for the effectual organisation of science as an

instrument of national progress. The skeleton and machinery of such an organisation already existed in the British Association and its corresponding societies. The most pressing needs to be supplied were those of better provision for research and a larger and more efficient equipment of universities. He contrasted the provision made for these requirements in this country with that of Germany and the United States, and insisted that we must give up the idea of relying upon private effort. As the result of careful inquiries and calculations, he held it to be necessary that there should be an expenditure of £24,000,000 by the State on the establishment of new Universities and the better equipment of those already existing, and that a large sum should also be devoted to the endowment of research. He advocated the constitution of a Scientific National Council as indispensable not only for industrial and commercial progress, but for the national defence and the national safety.

"No Government," remarks the *Times* writer, "would at present be prepared to submit a scheme of the proportions which we have described. But they will be bound to look at the matter in some new lights, and to consider more than they have considered the thesis that 'a relative decline in national wealth derived from industries must follow a relative neglect of scientific education,' and that teaching centres may be as important as battleships. Sir NORMAN LOCKYER has put before us facts which should make a deep lodgment in the public mind. Very likely his address, one of the most carefully-thought-out pleas yet presented for national scientific training, may prove, in MILTON's phrase, as to his scheme of national education, 'the occasion and incitement of great good to this island'; and the meeting of the British Association at Southport may be chiefly memorable for initiating an important movement."

Royal Horticultural Society's Fungus Show.

THE most interesting single exhibit at this show on Tuesday last was a group of *Agaricus elvensis*, sent by THOMAS BRISTOW, Esq., F.R.H.S., of Primrose Hill, Tonbridge, with the information that it abounds in his grounds, sometimes growing to a great size. This species is closely allied to the cultivated Mushroom, and is fully its equal as an esculent, with a darker and scaly pileus often six or eight inches in diameter, with flesh an inch in thickness, and usually growing in clusters of five or six individuals. Hitherto this species has been exceedingly rare, having been recorded only in the Midlands, near the Neasden Reservoir, and in a garden in Upper Holloway. Latterly it has been found and figured in France. It is a splendid species, and would be a great acquisition if it could be cultivated.

The Chantarelle, which has an established reputation at public dinner-tables at home and abroad, was sent from the New Forest and Epping Forest, as well as *Lactarius deliciosus* from the former locality. Altogether no fewer than fifty edible species were to be seen on the tables.

Subsequent to the exhibition, a lecture was delivered on the subject by Dr. M. C. COOKE, to a crowded audience, who exhibited a remarkable interest in the subject. It is understood that experts were engaged before the opening of the show in unpacking, naming, and arranging the specimens sent, which were for the most part unnamed. Notwithstanding assiduous attention, a great many specimens were to be seen without labels when the public were admitted.

There was a specimen of the common *Agaricus arvensis* which measured upwards of eighteen inches in diameter even in its partially dried condition. This was evidently a record.

ROYAL HORTICULTURAL SOCIETY.—The President and Council of the Royal Horticultural Society offer a prize of £10 for the best essay on Cottage and Allotment Gardening. The essay must not exceed 5,000 words, and all unnecessary technical expressions should be avoided. Notice must be taken of Vegetable, Fruit, and Flower Cultivation. The essay must have as an appendix (not included in the 5,000 words) a list of reliable but inexpensive books on the subject which could be recommended to a cottager. The prize essay to become the sole and absolute property of the Society. The essays must reach the Secretary of the Society, 117, Victoria Street, Westminster, S.W., before January 1, 1904. Each essay must be signed with a motto, and a sealed envelope must be enclosed bearing the same motto on the outside, and the writer's name and address inside. These envelopes will not be opened until the judges have decided on the motto winning the prize. If any illustrations are added they should be of the simplest and plainest outline description. W. Wilks, Secretary.

FLOWERS IN SEASON.—We have received from Mr. HEINRICH HENKEL, of Darmstadt, flowering shoots of *Scutellaria Baikalense*, a hardy perennial herb, almost glabrous; flowers blue, in simple racemes, a native of Eastern Asia; of *Chamaebatiaria* (*Spiraea*) *millefolium*, a glandular-pubescent spreading shrub, leaves lanceolate in outline, 1 to 3 inches long, densely set with oblong leaflets; flowers $\frac{1}{2}$ inch across in 2 to 5 inches long panicles, white; and *Pentstemon Bridgesii*, a profusely flowering species, forming, as Mr. HENKEL tells us, large bouquets of flowers the whole summer; flowers, rosy-scarlet, arranged on erect spikes $1\frac{1}{2}$ foot long.

— We have received from Mr. T. SMITH, of Daisy Hill Nursery, Newry, a good collection of uncommon plants in flower, which show how rich are our resources in plants for rendering the garden attractive at this season. We append the accompanying note from the pen of Mr. SMITH:—"Eriogonum racemosum, I think you will agree with me, is a most charming plant; *Monardella villosa* is an uncommon plant in gardens; *Polemonium confertum*, owing probably to the generous rains, has continued to flower all through the season; *P. c. pulcherrimum* is a dainty beauty and the smallest of all; *P. himalaicus bipinnatum* is a great jump for a plant to make; *Verbascum Lewanico*, an accidental seedling, evidently of hybrid origin as it is quite sterile; *Genista mantica* is a very distinct Broom, flowering for the second time this season; *Cytisus elongatus* has not been out of flower for three months—a most useful shrub; *Genista tinctoria*, useful as flowering late; *Daphne Cneorum*, quite out of season, but as fresh and welcome as in spring; *Menziesia polifolia lutescens* is a break towards a yellow Heathwort; *Dracocephalum Baikalense* is a pretty late-flowering plant, but it is one which travels badly; *Leucothoe recurva* is the first to give us rich autumn colouring; *Achillea pubescens* is very bright, and is practically in flower all the season. There are ripe seeds and fresh flowers on the spray sent."

A LARGE SPIKE OF BUDDLEIA VARIABILIS VEITCHIANA.—We have received from Messrs. J. VEITCH & SONS, Royal Exotic Nursery, Chelsea, an extraordinarily large spike of *Buddleia variabilis Veitchiana*, 27 inches in length, and proportionately broad. The flowers are in perfect condition and the whole is exceedingly ornamental.

The weight of so large a number of flowers and its great length had caused the spike to droop directly downwards like the flower-racemes of the common *Laburnum*, and seen at a short distance it resembled an enlarged spike of *Saccolabium Blumei majus*, excepting in colour.

PRESENTATION TO MR. J. DOE.—On the conclusion of the King's recent visit to Lord and Lady SAVILE at Rufford Abbey, His Majesty presented Mr. J. DOE, the head gardener, with a valuable diamond scarf-pin, in the shape of the Royal monogram. At the same time His Majesty expressed to Mr. DOE the extreme pleasure he had derived from the gardens during his visit, and congratulated him on their condition. Mr. DOE has had charge of the gardens at Rufford for more than nine years, and has effected several improvements.

CHAMBRE SYNDICALE DES HORTICULTEURS BELGES ET SOCIÉTÉ ROYALE D'AGRICULTURE ET DE BOTANIQUE DE GAND (FIRST SECTION).—On the occasion of the meeting of the above in the Casino, Ghent, on Sunday, September 6, Certificates of Merit were granted to Madame L. HEMPTINNE for *Cattleya aurea*; to M. le Marquis DE WAVRIN (*à l'unanimité et avec félicitations du Jury*) for *Cattleya Gaskelliana alba cerulea*, *Lælio-Cattleya hybrida* (L. *pumila præstans* × C. *labiata* Warneri), and for *Cattleya Gaskelliana alba* (*par acclamation*); to Messrs. SANDER & SONS, Bruges, for *Lælio-Cattleya Bletchleyensis* (L. *tenebrosa* × C. *Warszewiczii* (*à l'unanimité*), for *Lælia præstans pulchra*, L.-C. *eximia inversa* (L. *purpurata* × C. *Warneri*), L.-C. *Lady Wigan*, L.-C. *Aspasia* (L. *purpurata* × C. *Schilleriana*) (*à l'unanimité*); and to M. T. DE BIEVRE, of the Royal Gardens, Laeken, for *Cattleya Bievrianum* (hybrid C. *Gaskelliana* × C. *Schilleriana*).

PROPOSED INTERNATIONAL HORTICULTURAL EXHIBITION AT EDINBURGH.—At a meeting of the Council of the Royal Caledonian Horticultural Society held on Saturday, 12th inst., it was unanimously resolved to at once set about preparations for the holding of an International Fruit and Flower Show in Edinburgh, under the auspices of this Society in September, 1905. The last International show held by the Society was in 1891, and proved a great success. Looking to the strides which horticulture has taken in recent years, both at home and abroad, the Council anticipate a greater success; and they are desirous of offering premiums even better than in 1891, the total sum then offered being £1,300. The Secretary is P. MURRAY THOMSON, S.S.C., 5, York Place, Edinburgh.

ALBANIAN ONIONS.—We are informed by Messrs. R. WEICHSEL & Co., Magdeburg, that the harvesting of the Onions will begin shortly. If the weather is not too wet during the harvesting the Onions will be better in quality and keep better than last year. The size will again be generally large. The crop will be smaller than last year; this is not only because a part of the crop was lost shortly after sowing, but also because a smaller area has been cultivated owing to the low prices which ruled last season. For this reason prices will be higher than last year.

OPEN SPACE IN SOUTHWARK.—The memory of Horsemonger Lane Gaol has not yet died out. When the famous building was razed to the ground, the site was acquired by the London County Council, and converted into an open space for the recreation of the masses. At heavy cost the land adjoining (an acre and a half) was acquired and added to the gaol site, and recently this was thrown open to the youthful population—one half for the girls, the other for the boys. The cost has been very great, £20,000 being given as the amount expended. Surely

some way could be found, per Act of Parliament, for getting rid of this terrible load on the back of Sanitation!

THE "REVUE DE L'HORTICULTURE BELGE" is rich in illustrations this month. It contains a coloured plate of *Rubus reflexus*, to which we lately called attention; illustrations of the stem of *Dicksonia antarctica*, of the *Nepenthes* house at Kew, a plan of the botanic garden at Eala in the Congo State, presided over by M. LEON PYNÆERT, and worked by 250 native men and by 50 women! The account of this garden is very interesting, and is to be completed in a subsequent number. Turning from grave to gay, we have illustrations of the nautical *fête* at Ghent, in which florally decorated boats took a large part. The "*Avenir Horticole*" is to be congratulated on the success of its enterprise. A similar *fête* on the Serpentine would be a novelty in this country.

STRAWBERRY PRESIDENT LOUBET.—Some of our French contemporaries seem to take it amiss that a Strawberry should have been dedicated to M. LOUBET. We greatly regret that they should take this view of the case, as we are quite sure there was no other object than to render homage to the President of a great and friendly nation who happened to be visiting our shores about that time. The merits of the fruit in question have yet to be determined; but the intention is the same, be the fruit good or otherwise.

THE LIVING PLANT.—Messrs. HUTCHINSON & Co., of Paternoster Row, are publishing in fortnightly parts an illustrated work on this subject by Messrs. A. G. KNIGHT and EDWARD STREP. Seven hundred original illustrations are promised. It is to be, or is, "the only book of its kind," and "the first attempt to present the essentials of the science in a complete and popular manner." These are hardy assertions, for which we presume the commercial managers rather than the authors are responsible. We do not think that either of the botanists who have given their help, viz., Francis Darwin, Lionel Beale, George Nicholson, A. B. Rendle, Leo Grindon, W. Watson or Henry Burkill would subscribe to such statements without qualification. Time will indeed show whether "this is the most carefully produced book on the subject in this or any other language." The illustrations begin with one representing an old English garden with its clipped rows which are as unnatural as art can make them; and then we pass to two illustrations, the one representing pure, the other adulterated Coffee, as seen under the microscope; the explanation, we presume, is to follow. Then we have the Vegetable Sheep (*Haastia*), with nothing to indicate any proportionate size between it and the Walking Leaf Insect, the Orchid flower or the New Holland Pitcher-plant in close proximity. We hope it may not be too late to remedy this deficiency in some way, and to correct the slip in Plate V., where a *Sarracenia* is called a *Cephalotus*. Of the text, which seems rather diffuse, we may speak on another occasion, when the work has advanced further.

AUTUMNAL FLOWERS.

THIS is a season in which our gardens wear a highly picturesque aspect, notwithstanding adverse atmospheric conditions—storms of wind and much rain. Moisture is certainly productive of growth, but, on the other hand, a superabundance of it is injurious to our fairest flowers. Plants of a climbing character may grow with marvellous rapidity under its influence, but the delicate beauty of their flowers entirely disappears. *Tropæolum majus*, the Great Nasturtium; *Tropæolum speciosum*, and its finely contrasted cousin, *Tropæolum canariensis*, commonly styled

"the Canary Creeper," have rarely grown more grandly in my own garden than they have done this autumn; florally they are also, notwithstanding atmospheric adversity, extremely effective. Perhaps my finest artistic effect has been achieved this season by growing *T. canariensis* upwards through the dark foliage of *Prunus Pissardi*.

The most memorable pictures I have ever seen created by that lovely climber, *Tropæolum speciosum*, may be found at present at Logan Gardens in this parish, where it climbs and flowers to a commanding height.

At this special season gardens are bright with Dahlias, Montbretias, Phloxes, and Violas, which from atmospheric tribulation of late have suffered much. It is by no means an ideal period for the Dahlia, which has sometimes been designated, not without expressiveness, "the autumn queen." This is the intermediate season of the Rose, many of whose varieties are preparing for their final flowering. My finest specimen at present is Papa Gontier, a beautiful deep pink hybrid Tea of French origin. Few Roses are more fascinating than this, and it has more of the so-called perpetual habit than any other Rose with which I am acquainted; though it has rivals here even in that direction in Madame Pernet Ducher and Clara Watson. This attribute is also possessed by that most richly-fragrant of hybrid Teas, Viscountess Folkestone, which, though not quite so full in the centre, has proved itself a worthy rival of La France. Caroline Testout also grows and flowers superbly during the early autumn months. Among climbing Roses, Madame Pierre Cochet, Bouquet d'Or, William Allen Richardson, and Belle Lyonnaise are at present conspicuous; also Margaret Dickson, which is blooming grandly on the south and west walls of my garden, at a height of 10 feet. Roses, as a general rule, are considerably smaller in autumn than in summer but in form and in colour they are very beautiful.

Some of my fairest Lilies recently in full bloom were *Lilium auratum* and *L. chalcedonicum*, also certain early varieties of *L. speciosum*. This Lily has fragrance "like odours rapt from remote Paradise." Notwithstanding the exacting character of our climate, these Lilies find themselves in many instances in almost perfect correspondence with their environment. David R. Williamson.

KEW NOTES.

DIPODIUM PICTUM.—There are two species of *Dipodium*, natives of the Malayan Peninsula, viz., *D. paludosum*, which flowered at Kew in 1895, and *D. pictum*, now flowering at Kew for the first time. The latter is the handsomer, having a scape a foot long bearing nine flowers, each 2 inches across, and coloured pale yellow with leopard-like spots of crimson, which is brightest at the back of the sepals and petals. The lip is saddle-shaped and covered with shaggy hairs. The plant has an erect spiral stem bearing opposite rows of leathery, channelled, ribbed leaves. Some notion of this species will be obtained by orchidists from its synonyms, which are *Grammatophyllum scandens* and *Leopardanthus scandens*. The plant at Kew was obtained from the Singapore Botanic Gardens; it thrives in a tropical house along with Vandas, &c. A figure of it has been prepared for the *Botanical Magazine*.

ASPARAGUS DREPANOPHYLLUS (DUCHESNEI).

We owe the introduction of this distinct species of *Asparagus* to L'Horticole Coloniale, Brussels (M. Linden), by whom it was first exhibited in Paris in 1900 under the provisional name of *A. Duchesnei*. It is remarkable in having falcate cladodes (substitutes for leaves) of varying length, and arranged along the branches in such a way as to give the appearance of elongated almost flat fronds. The longest cladodes are

nearly 3 inches, and they are thin, with a distinct central nerve, and of a dark glossy-green colour. When allowed space in a tropical-house the stems climb to a length of 20 feet or more, branching freely so as to clothe pillars or rafters with an elegant evergreen drapery. A plant in a stove at Kew is now in flower, and it proves to be *A. drepanophyllus* of Welwitsch, with longer cladodes than those described, no doubt owing to the conditions under which the cultivated plants are grown. The flowers are borne on lateral racemes 3 to 6 inches long, and they are green and unattractive. The species is a native of various parts of tropical Africa, including the Congo, whence it was introduced to Brussels.

CRINUM NATANS.

One of the most remarkable plants recently introduced from tropical Africa is this *Crinum*, which combines with the essential characters of the genus the habit and appearance of a *Vallisneria* or of *Sparganium natans*. It will not grow unless treated as though it were a *Water-Lily*, and then it develops numerous narrow, thin, wavy leaves from 1 to 2 yards in length. Not even Mr. Baker, with his knowledge of *Crinums*, would suspect that this plant was one until he saw the flowers. Sir John Kirk found this species eight years ago in the Niger, in fresh water a long way from banks, and he discovered it through its flowers, which protruded above the water, the leaves being all submerged. There is a good example of the plant now in flower in the Victoria Lily-house at Kew. The scape is a foot high, and the flowers, which are in an umbel, have slender, erect tubes 6 inches long, and drooping narrow segments 3 inches long, of pure white. Miss Smith made an excellent drawing of the plant when it first flowered at Kew last year. See *Botanical Magazine*, t. 7, 862.

ALLAMANDA VIOLACEA.

The best form of this distinct stove shrub is a first-class garden plant. It has been constantly in flower on the roof of a stove at Kew since June, and its shining rose-purple flowers, over 3 inches across, are as attractive as those of a *Dipladenia*. It is happiest under cultivation when grafted on to one of the strong-growing, yellow-flowered forms, such as *Chelsoni*, *Williamsii*, or *Hendersoni*, which, by the way, are all varieties of *A. Schottii*. Sir Joseph Hooker, in describing *A. violacea* in the *Botanical Magazine* in 1890 (t. 7122), states, on the authority of Gardner, who collected it in Brazil, that its powerfully cathartic root is extensively employed in malignant fevers. It was in cultivation in England forty years ago, but was soon afterwards lost, Kew re-introducing it again in 1888 from the Botanical Gardens, Durban, Natal. It differs from all other *Allamandas* in the colour of its flowers, and also in having hispid leaves usually in whorls of four or five.

THE KEW BELLADONNA.

The superiority of this form of *Amaryllis Belladonna* over the other two, viz., the type and that known as *blanda*, may now be seen at Kew, where all three are flowering in the border against the south wall of the Orchid-house. There are twelve flowers open on one scape of the Kew variety, whereas on the others not more than five can be found. The flowers are larger and the colour a richer shade of rosy-crimson than in any other *Belladonna*. The origin of this fine plant is doubtful. It is supposed to be the result of a cross between *Brunsvigia Josephine* and a *Belladonna Lily*; but Mr. Baker, after carefully examining the plant, was of opinion that it was nothing more than an exceptionally fine variety of *A. Belladonna*. The cross between these two has since been carefully made at Kew, and the progeny will soon be old enough to flower; we shall then see if there is anything in the story of

the origin of the Kew *Belladonna*. It is certain, at any rate, that this cross can be made.

LYCORIS SQUAMIGERA.

This plant has flowered at Kew this year better than it ever did before. In a little border on the south side of the tropical fernery it has become established, and in August there were about fifty spikes of flowers. It will be remembered that this plant was first distributed as *Amaryllis Hallii*, and called the Blue *Belladonna*. In habit the plant is very similar to the *Belladonna Lily*, the flowers being produced in the same way, and about the same in form and size; but they differ in being of a dull grey-blue colour (see illustration in *Gardeners' Chronicle*, February, 27, 1897, p. 137). To some tastes they are pleasing, but to others they are dull and what Mr. Gumbleton calls "tush." Bulb fanciers may like to know that *L. squamigera* is quite at home when grown under conditions that suit the *Belladonna Lily*. W. W.

HOME CORRESPONDENCE.

MONSTROUS ROSE BLOOMS.—I send you an abnormal growth of Moss Rose. The plants were planted late, and did not flower much in their proper season, but though the old Moss (not perpetual) they are now making this effort. *Geo. Bunyard*. [The probable causes of the abnormal growths are the late planting, which postponed the flowering of the plants, and the heavy rains that promoted exuberance of growth. Several similar instances of proliferous Roses were figured in the early volumes of the *Gardeners' Chronicle*. Ed.]

ANOMATHECA CRUENTA.—It may be of interest to state, in connection with the note in the *Gardeners' Chronicle* of September 5, p. 177, that *Anomatheca* (now *Lapeyrousia*) *cruenta* lives for several years here without any protection. It was, however, lost in the hard winter of '94-'95, but I have a few bulbs that were planted a year or two afterwards and which bloom yearly. It is a much more effective plant in the shade than in full sun, the bright colour showing much better under such conditions. It has been grown for years at Trinity College Botanic Gardens, Dublin, where I saw it first as an out-door plant some years ago, and where Mr. F. W. Burbidge pointed out to me the better effect it produced in the shade than in the sun. It comes very freely from seeds, so that those who wish may soon have a large stock of bulbs. *S. Arnott*.

IPOMEEA RUBRO-CERULEA.—This lovely *Convolvulus* is sometimes seen in hot-houses, but rarely in the open ground. Being a native of southern Mexico, it requires to be started in a warm temperature; but when the plants have attained a height of 18 inches to 2 feet they may well be used for the decoration of the conservatory, or even planted against a sunny wall in the open. There are over 300 species of *Ipomoeas*, the majority of which are not in cultivation, but none exceeds in beauty the subject of this note. The large flowers, from 3 inches to 4 inches in diameter, are of a lovely pale-blue tint, and are rivalled in hue by no other plant in the open garden. The plant is an annual, but will continue to flower under glass protection, where sufficient heat is afforded, until December or January. In the open its season of beauty is naturally of shorter duration; but there is no reason why it should not be used to ornament warm walls through August and September. The present summer has been exceptionally wet, dull, and windy, yet for the past five weeks this species has afforded a charming picture on a south wall, where its twining growths ascend perpendicular wires to a height of 4 feet, and charm beholders with numbers of pale-blue flowers. The plants are put out in rich and porous soil in mid-July, when the first flower-buds are just formed. They are grown singly in 4½-inch pots, and care should be taken not to disturb the ball in planting. Few are aware what beauty they miss by not employing this lovely annual *Convolvulus* for affording colour to southern walls with its clear blue flowers in late summer and early autumn. *S. W. Fitzherbert*.

THE "BELVEDERE."—The note in the *Gardeners' Chronicle* on "*Kochia Scoparia*," p. 177, reminds me of the difficulty experienced in finding out anything about it when it was brought into notice by Messrs. Cannell. I then found it where I little expected, in Britton & Brown's *Illustrated Flora of the Northern United States and Canada*, where it finds a place as a plant which has become naturalised in "Ontario, Vermont, and Northern New York." Your note has induced one to search further, but several herbals and old gardening works contain no reference to it. As you remark, it is to be found in Miller's *Gardeners' Dictionary*, and I also find it in Justice's *Scots Gardeners' Director*, second edition, 1759, where it appears in the list of seeds in the catalogue of Dirk & Pierre Voorhelm, Haarlem, 1754, under the name of *Belle Videre*, which Justice tells us further is "*the Chenopodium lini folio villosa*, Tourn., Flax-leaved Orach, *Belvidere vulgo*." These plants may be raised from seeds sown in the autumn or early in the spring, and when they are 2 inches high they should be transplanted into pots or borders, where, when they are full-grown, they make a very pretty pyramidal bush to adorn rooms; they are very hardy and sow themselves often; when in pots they should be often watered." Gordon's *Planters, Florists and Gardeners' Pocket Dictionary* (Edinburgh, 1774) speaks of it as "... Flax-leav'd Orach, Summer Cypress, or *Belvidere*," which "has much the appearance of the Cypress Fir, but is of a brisker green, and grows in the pyramidal form. The seeds should be sown in autumn, and when the seeds ripen, if they are allowed to scatter on the ground, they will come up much better than when sown with much care. This kind is an annual, which agrees with a light, warm border, and should have plenty of water in warm weather." *S. Arnott, Carsethorn-by-Dumfries, N.B.*

HUMEA ELEGANS AND PEACH-TREES.—Upon reading the letter of your correspondent, "A. D.," upon the above subject in the *Gardeners' Chronicle*, it brought clearly to my mind a similar case that came under my notice some six years ago. As a journeyman gardener at the time, I had in my charge a lean-to Peach-house, the front of which was planted with trees trained on a trellis which reached about half-way up the roof, and the bed at the back, which was raised some 3 feet, was used for standing pot-trees upon, and there was a shelf running along just above the permanent trees. Upon this shelf we had at one time some two dozen plants of *Humea* growing in 7-inch pots. After they had been in the house for a few days, I noticed that all the pot-trees were in a sad way, the younger leaves curled up as if they had been scalded, and in several instances small holes were noticed in them. I called the attention of the head gardener to these appearances, and as I had been recently using an insecticide upon the trees, I got blamed for using it at too great a strength; but I thought it strange that it should not have had any ill effects upon the permanent trees, seeing that they were all in the same stage of growth, and were syringed with the same lot of insecticide. After the light which "A. D.'s" letter has thrown upon the subject, I am of the opinion that the *Humeas* were the cause of the mishap. The only reason that I can give for it only having effect upon the pot-trees is that they were above and near to the plants of *Humea*, whilst the permanent trees were below them, so that the pot trees would naturally have a larger amount of the emanations from the *Humeas*. *G. W. Young, Welbeck*.

CHAMPION GRAPE CLASS AT SHREWSBURY.—In the following sentence in my letter published on p. 194, the word "visitors" should have read "competitors": "Now if ever there was a competition which deserved to be of an international character, and attract visitors (competitors) from all parts of the kingdom, it is surely this one." *D. Buchanan*.

THE WEATHER IN DEVON.—The disastrous gale which raged on Thursday afternoon and evening of September 10 may be described as a bad finish to a bad season. Besides doing a large amount of damage to ornamental and forest-trees, the effect of the gale was very apparent in

the garden. On Friday morning it was noticed that most of the Apples and Pears had been shaken from the trees, and the foliage was as if scorched. Outdoor flowers and tender vegetables have suffered badly. To make the condition of things worse we registered rather more than 8° of frost on the night of the 14th. The hope of good autumnal weather for the proper ripening of fruit-trees and other plants is not promising. T. H. Slade, *Poltimore Park Gardens, Devon.*

AZOLLA FILICULOIDES IN FRUIT.—A quantity of this pretty little aquatic Cryptogam is now fruiting freely in an open-air tank in the Trinity College Botanical Gardens at Dublin, and any botanist who may wish for a supply of fresh living specimens will receive the same gratis on his forwarding a stamped label addressed to himself, or wherever he wishes the material delivered per post. If this note should catch the eye of anyone having *Salvinia natans* in the fruiting stage, I should be glad of a fresh supply for preservation. F. W. Burbidge, *Trinity College Botanic Gardens.*

SUN SPOTS.—Sir Norman Lockyer is reported to have said, in his address to the British Association just recently, that we were in for a series of wet and cold summers, caused by spots on the sun, and that, having had two, the second worse than the first, the next one would be worse still, but that there would be an improvement in 1905. I did not read his address, but if this statement be true, then the outlook for next year is indeed a gloomy one. Certainly it is unwise to anticipate trouble, but the practical deduction from the warning is that so far as possible it should be prepared for. How far that can be done by gardeners is for each one to determine for himself. Probably throwing up garden soil intended to carry crops, in the form of sharp sloping beds facing south, may help in some respects. Those who have planted Tomatos largely outdoors this year and suffered failure will hardly do the same next year. Potatos should be allowed more room between the rows. Everything that can be should be grown under glass. The prophecy may not come true, but it is well to be prepared lest it should, as seems very probable. A. D.

THE SPELLING OF SPECIFIC NAMES.—There is, of course, an evolutionary process going on in botanical names as in other matters, but I often wonder why the botanists persist in following the obsolete practices of those who were often in error years ago. Why should a gardener's time be wasted in deciding by references to books or otherwise whether a certain specific name is to begin with a capital letter or otherwise? Had we the accurate classical attainments of the Rev. C. Wolley-Dod the thing would be easy, but as this is not so, why do botanists hesitate to adopt the common-sense plan the zoologists adopted years ago, and write all specific names with a small letter at the beginning. Most of the real commerce of the world in timber, fruit, textiles, drugs, &c., is conducted without botanical names at all; why should botanists and horticulturists be such sticklers for pedantry in the matter of spelling Latin plant names? Men who have real work to do sooner or later adopt simple common-sense methods of doing it. They have no time to waste on "the whyness of the wherefore, or the goneness of the past"; and I for one only voice the opinions of many others who think a name should be like a clear and unobscured lighthouse, and not like a dark lantern. At any rate, why should botanists waste time in arguing about a matter the zoologists settled in a practical manner long ago? *Common-sense.*

ROSE ZÉPHYRINE DROUHIN.—Admirers of the best garden Roses are deeply indebted to you for bringing this variety under their notice, and your notes will be certain to cause it to be more widely known. It appears to have escaped the notice of the reporters of the horticultural press at the Edinburgh show that a vase of Rose Zéphyrine Drouhin was included in the collection of Roses exhibited by Messrs. J. Cocker & Sons, of Aberdeen. No name was attached, however, or more would have observed it and been in a position to speak of its lovely colour and delicious

fragrance. Its thornless or almost thornless character was also evident, so that one can quite endorse what has been said in its favour. S. Arnott.

SOCIETIES.

ROYAL HORTICULTURAL. FRUIT AND VEGETABLE COMMITTEE.

FRIDAY, SEPTEMBER 11.—A meeting of the Fruit and Vegetable Committee was held at Chiswick, at which there were present Messrs. H. Balderson (Chairman), O. Thomas, W. Bates, H. Esling, J. Smith, G. Woodward, H. J. Wright, J. Jacques, G. Kelf, and A. Dean, thus forming a full quorum.

The primary object of the meeting was Potato inspection, there being a large number of late varieties, old and new, to be examined. Some gave very fine, others very poor crops. Tops had largely died off, but there was comparatively little disease seen in the tubers. A few varieties were still in full growth, and these were not tested. There was very little of supertuberation. Eight samples of varieties that were of promising appearance on the ground were selected to undergo the cooking test, one conducted here always in their skins with singular success. Of these, Daniels' Special (Daniel & Sons, of Norwich), an old variety, but still of capital quality, having had a certificate in 1891, was still found to be excellent.

A First-class Certificate was unanimously given to Tim Gray, a white, oval round, and a heavy cropper, one of a large batch of seedlings sent by Lord Carew from Ireland. This was exceedingly good when cooked.

Awards of Merit were given to Maid of Coil (Lord Carew), a white, flattish round, a great cropper; H. Fincham (Fincham, Kent); and to Dalmeny Beauty (J. Smith), a long oval round, with a white skin; and a fine cropper.

Generally the tubers were drier this time when cooked than was the case at the corresponding time in 1902.

Out of a batch of Cauliflowers, an Award of Merit was granted to Damman's Eclipse, a fine stock, intermediate between the Early London and Autumn Giant, the curd solid and white, and the plant dwarf.

A trial of Cabbages and Kales was observed, but all were so coarse in growth, not one apparently being fitted for ordinary garden culture. What could have induced any one, for instance, to send the Giant Drum-head Cattle Cabbage to Chiswick? A considerable number of Tomatos growing in pots were likewise noted, but none exhibited merits that rendered it worthy of an award. Tomatos now seem to have reached their full development. A.

SEPTEMBER 15.—The usual fortnightly meeting of the Committees was held in the Drill Hall, Buckingham Gate, Westminster, on Tuesday last, when the building was well filled with a very miscellaneous collection of plants, flowers, fruits, vegetables, and fungi.

The ORCHID COMMITTEE recommended a First-class Certificate, a Botanical Certificate, and two Awards of Merit to novelties.

The FLORAL COMMITTEE was concerned largely with Dahlias, and appointed a sub-committee to act in conjunction with a sub-committee of the National Dahlia Society in the judging of seedling varieties. Ten awards were recommended, and they may be regarded therefore as equivalent to Awards of Merit by the Royal Horticultural Society and First-Class Certificates by the National Dahlia Society. In addition to the Dahlias, Awards of Merit were recommended to *Smilax sagittifolia*, *Senecio tanguticus*, and *Sidalcea "Rosy Gem."*

The FRUIT AND VEGETABLE COMMITTEE made no awards to the novelties submitted to them, but attention may be drawn to a remarkable exhibit of Lettuces made by Messrs. DICKSON & ROBINSON, of Manchester.

The exhibition of Fungi (the only one held under the auspices of the Society since that reported in the *Gardeners' Chronicle* for October 9, 1899), interested a considerable number of the visitors, many of whom appeared to regard even the most edible species with a considerable amount of distrust. The most surprising circumstance connected with this exhibition of British Fungi, shown presumably to illustrate Dr. M. C. Cooke's lecture on "Edible Fungi," was that there were only two poor specimens of the commonest species of all, *Agaricus campestris*, the cultivated Mushroom. The

nearest relative shown was the Horse Mushroom (*Agaricus arvensis*), of which there was a remarkable specimen. In order to illustrate Dr. Cooke's lecture we have reproduced illustrations of a few of the more popular of edible fungi, omitting the Mushroom, which is sufficiently well known.

Floral Committee.

Present: W. Marshall, Esq. (Chairman), and Messrs. R. Dean, J. Green, H. B. May, J. Walker, A. Perry, J. F. McLeod, W. Howe, G. Reuthe, C. Dixon, C. J. Falter, C. Jeffries, R. Wallace, J. W. Barr, W. P. Thomson, E. H. Jenkins, W. J. James, H. Cutbush, C. Blick, Rev. F. Page Roberts, G. Paul, and C. E. Pearson.

From Baron Sir H. SCHROEDER, The Dell, Englefield (gr., Mr. H. Ballantine), was exhibited a splendid group of Nerines, apparently *N. Fothergillii majus*. The plants included young ones in 5-inch pots and great masses in 10-inch pots. One and all were extremely well flowered (Silver Flora Medal).

MESSRS. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, were awarded a Gold Medal for one of their grand exhibits of Nepenthes, showing twenty-nine excellent plants in twenty-seven sorts, suspended over a groundwork of Adiantum Ferns. The pretty hybrid *N. × Mixta* in one instance carried seventeen good pitchers; and others were equally good, especially *N. Balfouriana*, *N. × Sir W. T. Thiselton-Dyer*, *N. sanguinea*, *N. intermedia*, *N. × Tiveyi*, *N. Mastersiana* (still one of the best and highest coloured), *N. Wrigleyana*, *N. Rafflesiana*, *N. Hookeriana*, and *N. Curtisii superba*, one of the most effective varieties. The whole collection was composed of excellently-grown plants, such as the Chelsea firm are famed for. Messrs. VEITCH also exhibited a plant of *Actinidia chinensis* about 15 feet high, entwined round wooden stakes. In general appearance this trailing plant is somewhat like *Vitis Coignetiae*, but the large rough leaves (excepting the early ones) are ovate, with acuminate tips. The stems are reddish, and like the leaves are covered with hairs. A dried specimen collected in China showed the flowers of the plant, but its use in the garden would doubtless be that of an ornamental foliage trailer.

MESSRS. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, London, showed a group of beautiful plants of *Adiantum tenerum Farleyense* in pots, varying in size from 5, 8, to 10 inches. The specimens were remarkably fresh in appearance and finely developed, each plant bearing a number of young fronds, bearing the tint characteristic of this handsome variety. There were thirty-six plants (Silver Banksian Medal).

MESSRS. J. HILL & SON, Barrowfield Nurseries, Lower Edmonton, made a large exhibit of Ferns, in which species and varieties of *Gleichenia* were the prominent features; *Davallia tenuifolia Veitchii*, a very slender-growing graceful Fern, *Adiantum Farleyense*, several species of *Asplenium*, &c., were interspersed with the *Gleichenias*. Of *Gleichenias* there were excellent specimens of *G. dicarpa glauca*, *G. semivestita*, *G. speciosa*, *G. dicarpa*, and the more foliaceous and distinct *G. flabellata* (Silver Flora Medal).

Roses were shown as cut flowers from Messrs. JNO. JEFFRIES & SON, Royal Nurseries, Cirencester, who had six boxes containing about eight dozen blooms of good size and quality for so late a date (Silver-gilt Flora Medal).

MESSRS. WM. BULL & SONS, King's Road, Chelsea, exhibited a group of fine foliage plants, mostly stove species, and all very finely cultivated. The plants included *Dracena Victoria*, varieties of *Codiaeum*, *Dracena Goldiana*, *Cocos Weddelliana*, the pretty little basket plant (*Cropegia Woodii*), *Habenaria carnea* in excellent condition and flower, &c. (Silver Flora Medal).

MESSRS. DOBBIE & CO., Rothesay, N.B., made a display of cut sprays of Fuchsias, in something like one hundred varieties, single and double flowers, in which were short and long corolla types and various colours. They were abundantly flowered, and served well for visitors to compare the different varieties with each other.

MESSRS. H. CANNELL & SONS, Swanley, Kent, exhibited a splendid group of *Cannas*, as brightly coloured as if it were midsummer. There were nearly fifty varieties shown, of which Mrs. G. A. Stroheim (crimson), B. Van der Schoot (yellow, splashed with red), James Wigan (almost cherry red), Black Prince (very deep crimson), Herman Fisher (salmon-red), and Magara (bright crimson with yellow margins) were particularly attractive. Two fine blooms of the white-flowered *Cereus triangularis* were also from Swanley (Silver-gilt Banksian Medal).

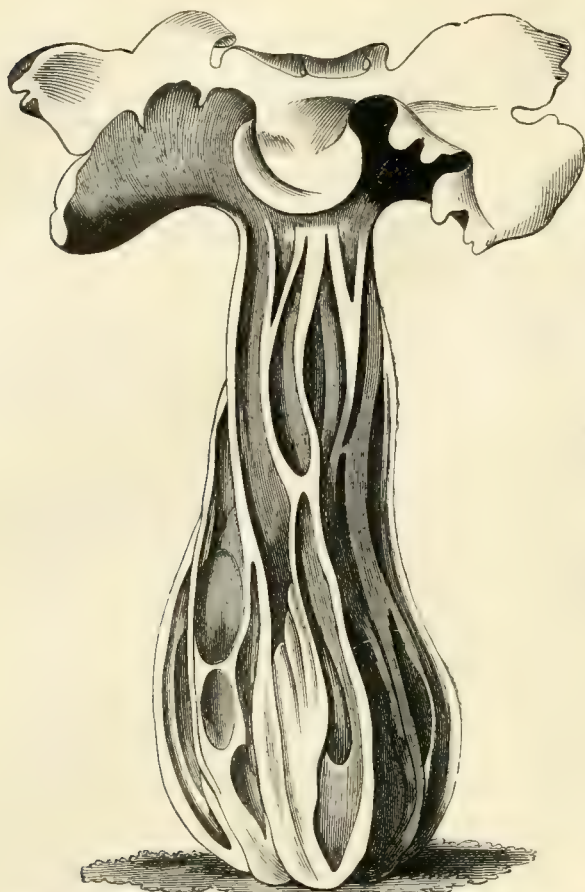


FIG. 85.—THE WHITE HELVELLA: *HELVELLA CRISPA*.
(See Lecture on "Edible Fungi," p. 214.)

Messrs. W. CUTBUSH & SON, Highgate Nurseries, London, N., made a very extensive exhibit of hardy flowers, amongst which varieties of shrubby Phloxes were excellent. Among white-flowered varieties were Sylphide, Mrs. Jenkins, Jeanne d'Arc, &c.; Etna Coquilicot, Richard Wallace, &c., represented the salmon and pink shades, and there were a number of purple ones. In the hardy flowers, the Pentstemons, Montbretias, and border Chrysanthemums were most showy (Silver-gilt Banksian Medal).

Messrs. J. CHEAL & SONS, Lowfield Nurseries, near Crawley, made an extensive exhibit of Dahlias, including Pompons, Cactus, and single-flowered varieties; also a few species of hardy flowers (Silver-gilt Banksian Medal).

Messrs. PAUL & SON, The Old Nurseries, Cheshunt, exhibited a few hardy flowers, amongst which we noticed Rudbeckia Newmanii, R. purpurea, Scabiosa caucasica magnifica, Gaillardias, Coreopsis, &c.

Messrs. GUNN & SONS, Alton, near Birmingham, staged a grand lot of shrubby Phloxes, consisting of the best varieties. Good, bold bunches were put up, that gave a very fair idea of the head of blooms each variety may be expected to produce. A group of the excellent white Phlox Sylphide was thus put up. The method adopted was to stretch rough wire netting over large tin bowls, and place the stems through the meshes.

Messrs. THOS. S. WARE (1902), Ltd., Ware's Nurseries, Feltham, made a very large display of hardy flowers, including a Sidalcea, mentioned under "Awards;" also sprays of flowers of Polygonum Balduianum, and an infinite number of species. In addition to the hardy flowers there were some plants in bloom of hybrid Nerines, among which N. x Crimson Beauty had large rather spreading flowers of bright-crimson (Silver-gilt Banksian Medal).

Messrs. WALLACE & CO., Kilnfield Gardens, Colchester, filled the cross table near to the entrance-door with a group of hardy flowers, including a quantity of Gladiolus in variety, and some choice varieties of Lilium speciosum, L. auratum rubro vittatum; also Sternbergia lutea major, Colchicum Bornmülleri, Oenothera riparia, &c. (Silver-gilt Banksian Medal).

Messrs. BARR & SONS, King Street, Covent Garden, London, exhibited Gladiolus, Tritomas, Colchicums, and other hardy flowers (Bronze Flora Medal).

Messrs. B. LADHAMS, Shirley Nurseries, near Southampton, exhibited a group of hardy flowers, and

made a speciality of varieties of Gaillardia, Pyrethrum roseum, &c., with a few of the early-flowering perennial Asters, and a number of the hybrid Lobelias of the syphilitica and Cardinalis sections (Bronze Flora Medal).

Messrs. W. WELLS & CO., Ltd., Earlswood Nurseries, Redhill, again made a large exhibit of out-of-door-grown Chrysanthemums, in which Carrie, the new yellow-flowered variety, also Blush Beauty, Mychett Gem (white), Goacher's Crimson, and a very large number of others appeared (Silver Banksian Medal).

Mr. A. H. GWILLIM, Eltham, Kent, showed a nice collection of single and double flowers of tuberous-rooted Begonias, and was awarded a Silver Banksian Medal.

Dahlia (single) Princess of Wales.—A perfectly circular flower of rosy-mauve colour, with an orange-coloured ring around the disc. A very attractive and choice flower, though not included in the official list of Awards. Shown by Messrs. J. CHEAL & SONS.

Awards.

AWARDS OF MERIT.

Dahlia (Cactus) Miss F. M. Stredwick.—A good-sized flower with rolled and pointed florets, colour whitish with lemon-yellow centre. Shown

by Messrs. J. STREDWICK & SON, Silverhall Park, St. Leonards-on-Sea.

Dahlia (Cactus) Mrs. H. L. Brousson.—A very fine variety of the larger-flowered type. Excellent florets, colours bronze and buff. Shown by Messrs. J. STREDWICK & SON.

Dahlia (Cactus) George Gordon.—This belongs to the type of flower that usually presents two colours. In this case the centre or top florets of the flower are of a bright yellow colour, but the older florets bronze. Shown by Messrs. J. STREDWICK & SON.

Dahlia (single) Rosebank Scarlet.—An intensely crimson flower, 3 inches across, of good circular form. Shown by Mr. ED. MAWLEY, Rosebank Berkhamsted.

Dahlia (Cactus) Sweet Nell.—A large flower of rich mauve colour and whitish centre. Shown by Messrs. HOBBIES, Ltd., Dereham, Norfolk.

Dahlia (single) Darkness.—Intense maroon-crimson colour. Shown by Messrs. J. CHEAL & SONS.

Dahlia (Cactus) Dainty.—A very "dainty" flower of mauve and primrose colour. Shown by Messrs. HOBBIES, Ltd.

Dahlia (Pompon) San Toy.—A pretty little flower, of less than average Pompon size, with white florets, having a purple margin and tips. Shown by Mr. CHAS. TURNER, Royal Nurseries, Slough.



FIG. 86.—THE SHAGGY CAP: *COPRINUS COMATUS*.

(See Lecture on "Edible Fungi," p. 214.)

FIG. 87.—THE CHANTARELLE: *CANTHARELLUS CIBARIUS*.

(See Lecture on "Edible Fungi," p. 214.)

Dahlia (Pompon) Queen of Whites.—Almost described by its name. It may be added that the flower is much larger in size than the one mentioned above, and that it has just a suspicion of lemon yellow. Shown by Mr. C. TURNER.

Sidalcea candida "Rosy Gem".—A very fine variety of this hardy plant having rich rose-coloured flowers. Shown by Messrs. T. S. WARE, Ltd.

Senecio tanguticus.—A Chinese hardy species, growing from 4 feet to 6 feet high, and having much divided Chrysanthemum-like leaves. The flowers are yellow, rather small and inconspicuous individually, but produced in large terminal, erect panicles. Shown by Messrs. JAS. VEITCH & SONS.

Smilax aspera (*sagittifolia*).—This half-hardy Evergreen climber was shown by Messrs. JAS. VEITCH & SONS. It has sagittate leaves 4 inches wide at base and about 3½ inches long. An illustration of a variety of this species was published in the *Gardeners' Chronicle* for December 20, 1884, p. 785, from which it will be seen the species produces sessile fascicles of flowers arranged in long spikes.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), De B. Crawshay, J. Gurney Fowler, W. Boxall, J. W. Odell, H. Little, J. Colman, H. A. Tracy, W. H. Young, J. W. Potter, W. H. White, F. W. Ashton, J. Cypher, A. McBean, F. J. Thorne, G. F. Moore, F. Wellesley, and H. Ballantine.

There was a very good show of Orchids, several fine groups being staged, and many subjects were entered to go before the Committee.

Sir TREVOR LAWRENCE, Bart., Burford (gr., Mr. W. H. White), staged an interesting group, containing several singular species, among which were noted *Oncidium Boothianum*, with a very long-branched spike of yellow and brown flowers; *Bulbophyllum Micholitzii*, a singular-looking species allied to *B. grandiflorum*, but with narrow and green segments; *Pholidota chinensis*,

and a singular *Polystachya* sent from West Africa by Sir Trevor Lawrence's son (see Awards). The showy things included *Miltonia* × *Bleuana*, a finely-grown *Disa grandiflora*; *Laelio-Cattleya* × *purpurato-schilleriana*, *Oncidium varicosum*, Burford variety, with extraordinarily large flowers; *Laelio-Cattleya* × *Proserpine*, &c. (Silver Banksian Medal).

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), staged an effective group, which included *Miltonia* × *Bluntii* Lubbersiana, *M. Roezlii*, *M. Regnelli* Crawshayana, *M. candida*, the singular *Oncidium microchilum*, the rare *Eulophia guineensis*, a good *Vanda cerulea*, some plants of the elegant *Odontoglossum aspidorhinum*, *O. bictoniense album*, *O. Uro-Skinnerii album*, *Cattleya Eldorado*, the delicately-tinted *Cypripedium* × *Felicity*, *C. × Fowleriana*, *C. × Wiertzianum*, *C. niveum*, &c. (Silver Flora Medal).

Messrs. CHARLESWORTH & CO., Heaton, Bradford, were recommended a Gold Medal for a very fine group of select hybrids, including six plants of their fine *Cattleya* × *Iris* [(bicolor × aurea), varying in tint, but all beautiful; *C. × Germania* (granulosa × Hardyana), equally fine; *C. × Chamberlainiana* (Leopoldii × Dowiana), one of the earliest and most beautiful Veitchian hybrids; *Laelio-Cattleya Digbyana purpurata*; *L.-C. × Digbyana-Warszewiczii*; and *Laelia* × *Helen* (tenebrosa × Digbyana), *Laelio-Cattleya* × *Clive*, *L.-C. × callistoglossa*, *Cattleya* × *Lord Rothschild*, *C. × fulvescens*, *C. × Harrisoniana Alexandra*, white, with a slight blush tint; *Cypripedium* × *Mad. Georges Truffaut*, *Sophr.-Laelia* × *Heatoniensis*, and other good hybrids, including *Odontoglossum* × *Duvivierianum*.

Messrs. SANDER & SONS, St. Albans, were awarded a Silver Flora Medal for an extensive group, the gem in which was the new and handsome *Zygopetalum* × *Roeblingianum*, from C. G. Roebling, Esq., Trenton, New Jersey, which secured a First class Certificate (see Awards). Among other good things noted were *Laelio-Cattleya* × *Herga* (*L.-C. elegans* × *C. Gaskelliana*), a very pretty flower; *L.-C. × Duchesnei*, several good *L.-C. × Canhamiana* *L.-C. × Atalanta*, *Cattleya* × *Mastersoniae*, *Pachystoma Thompsoniana*, various *Cypripediums*, and good *Odontoglossum crispum*.

Messrs. JAS. VEITCH & SONS, Chelsea, showed two very distinct hybrids in *Cattleya* × *Pittiana*, which differed widely from those previously shown, the one having bronzy-rose and the other yellow sepals and petals, and both having rose-purple veined labellums.

FIG. 88.—THE FAIRY RING CHAMPIGNON: (*MARASMIUS OREADES*).

(See Lecture on "Edible Fungi," p. 214.)

Also *Lælio-Cattleya* × *Haroldiana*, L.-C. × *Eunomia*, &c.

Messrs. HUGH LOW & CO., Bush Hill Park, were awarded a Silver Flora Medal for an effective group, the plants at the back of it being well-flowered ones of *Oncidium carthagenense*, the prettiest of the *O. luridum* section; *O. incurvum*, *O. microchilum*, and others with slender spikes. In the front were *Cypripedium* × *Frau Ida Brandt*, C. × *Mme. G. Truffaut*, *C. Lawrenceanum* Hyeaunum, C. × *Olivia*, *Cattleya aurea*, C. *Gaskelliana* alba, *Miltonia Regnelli*, *Dendrobium formosum*, and a distinct, brown-tinted form of *Bulbophyllum Lobbii*.

C. H. FEILING, Esq., Southgate (gr., Mr. Stocking), showed five fine hybrids of *Cypripedium* *Rothschildianum*, viz., two good specimens of C. × *Massaianum*, and one each of C. × *Wiertzianum*, C. × *Shillianum*, C. × *Neptune*, and C. × *Elise* (Pallas × *Rothschildianum*), a bold finely-marked flower.

T. M. CROOK, Esq., Stanley Grange, near Preston (gr. Mr. Parks), showed a remarkable plant of *Cypripedium* × *Lord Derby* with three spikes bearing together four fine flowers proceeding from the centre of one growth; C. × *superbiens* × *Rothschildianum*, and two others which secured Awards.

Sir Wm. H. S. MARRIOTT, Bart, Blandford, sent *Cattleya* × *Armainvilliersiense* (Mendeli × *Warszewiczii*). DREWETT O. DREWETT, Esq., Riding-Mill on Tyne, sent *Cypripedium* × *Calypsoides* (*Calypso* × *Rothschildianum*).

FRANCIS WELLESLEY, Esq., Westfield (gr., Mr. W. Hopkins), again sent in still finer condition his showy *Lælio-Cattleya* × *Wellsiana* *magnifica*, which had previously secured an Award of Merit. Its broad petals were rosy-lilac, with a crimson-purple feather on the middle portion extending to the tip, and the front of the lip of a ruby-purple colour.

Baron Sir H. SCHROEDER, The Dell, Egham, sent a flower of the handsome *Sophrone-Cattleya* × *Queen Empress*, still the most beautiful of the *Sophrone* crosses.

W. THOMPSON, Esq., Walton Grange (gr., Mr. W. Stevens), sent *Odontoglossum* × *Juno* (luteo-purpureum *sceptrum* × *cirrhosum*), with light-yellow rather narrow sepals and petals blotched with chocolate, and white lip marked with purple.

Awards.

FIRST-CLASS CERTIFICATE.

Zygopetalum × *Roeblingianum* (rostratum × maxillare *Gautieri*), from C. G. ROEBLING, Esq., 333, West State Street, Trenton New Jersey, U.S.A. (gr., Mr. Clinkaberry), and shown by Messrs. SANDER & SONS, St. Albans.—A very beautiful hybrid, partaking mostly of the large-flowered *Z. rostratum* in size and shape of bloom, but with the growth of *Z. maxillare*. The sepals were whitish-emerald-green, with a light chocolate-purple marking running up the middle portion; petals nearly white, marked with purple on the inner halves. Lip of a violet colour at the base and crest, in front of which are some fine white lines radiating into the middle portion, which is marked with rose-purple. The enlarged white front portion of the lip has a cleft on each side, indicating trifoliation. This remarkable hybrid is comparable only to the fine natural hybrid *Z. Ballii* (illustrated in the *Gardeners' Chronicle*, March 10, 1900, p. 149), which had *Z. rostratum* for one of its parents, but could not have *Z. maxillare Gautieri* for the other, unless a new record of habitat for one or the other can be found.

AWARDS OF MERIT.

Cypripedium Lawrenceanum Gratrixianum, from T. M. CROOK, Esq., Stanley Grange, Hoghton.—Flower resembling the fine green-and-white C.-L. Hyeaunum, but with a rose tint on the petals and lip.

Cypripedium × *Rappartianum* (*Lathamianum* × *Charlesworthii*), from T. M. CROOK, Esq.—Flowers large, dorsal sepal white, finely tinged and marked with magenta-rose. Petals and lip tinged and slightly veined with brownish-purple.

BOTANICAL CERTIFICATE

to *Polystachya Buchananii*, var. *viride*, from Sir TREVOR LAWRENCE, Bart., Burford (gr., Mr. W. H. White).—An interesting variety of a remarkable species of which the type was sent from the Zambesi by the late John Buchanan. The present variety was collected in West Africa by the third son of Sir Trevor Lawrence, Bart., Lieut. C. T. Lawrence, of the West African Frontier Field Force, who thus establishes a new record for the plant. The eight-branched inflorescence bore many smallish emerald-green flowers with white labellums.

CULTURAL COMMENDATION

to Mrs. TIMMINS, Stone Hall, Oxted, for a fine plant of *Cattleya Loddigesii*, very profusely flowered.

Fruit and Vegetable Committee.

Present: Mr. G. Bunyard (Chairman); and Messrs. H. Balderson, A. H. Pearson, W. Bates, H. Esling, P. Mortimer, A. Dean, G. Kelf, E. Beckett, J. Jacques, O. Thomas, H. Markham, G. H. Maycock, J. Willard, J. H. Veitch, H. Somers Rivers, W. Poupart, E. Molyneux, and J. Cheal.

A large Melon, named "Montreal," came from Mr. W. J. KIPLING, the Gardens, Knebworth, Stevenage. Mr. C. MOSS sent from Welford Park Gardens, Newbury, one named "Surma," the product of crossing Hero of Lockinge with Banquet.

From the Swanley Horticultural College came a pair of fair-sized Melons attached to each other by the rind, and were shown as twins. Mr. ROSS also showed a pretty round, flatish Apple, richly coloured, named "Ruddy."

Mr. W. J. GODFREY, Exmouth, showed a fine pale-green Apple, unnamed; flesh soft and briskly flavoured.

Mr. F. W. RICH, Royal Nurseries, Sandford Churchill, had a very handsome medium-sized, round, very red Apple named "Rich's Favourite."

Mr. E. ROW, gr. to the Dowager Countess of HARROWBY, High Ashurst, Dorking, sent a fine, curved, culinary Pea, which was unanimously regarded as The Gladstone.

Mr. J. KING, East Hornden, Essex, showed a dish of capital Autocrat Peas as King's Autocrat.

Mr. J. W. PERKINS had dishes of Potato *Recompense*, which was recommended to be tried at Chiswick; as was also a Runner Bean said to be the product of crossing Tender and True with the white Dutch Runner. No awards were made to any of these exhibits.

Messrs. SPOONER & SONS, Hounslow, had staged a really fine collection of Apples for the season, all from the open. They were shown in baskets, boxes and plates, and comprised forty varieties. The cooking varieties included very fine Grenadier, Royal Jubilee, Annie Elizabeth, Alfriston, The Queen, Pot's Seedling, Bismarck, Frogmore Prolific, Paasgood's Nonsuch, and Sandringham. Of dessert varieties, there were Lady Sudeley, Red Quarrenden, Duchess Favourite, Good-enough, Nonsuch (very good sample, but very little known), Worcester Pearmain, Wealthy, the oddly-coloured conical Oker, and Williams' Favourite (Silver-gilt Knightian Medal).

A most remarkable and unusual exhibit was one of Lettuces, set up by Messrs. DICKSON & ROBINSON, of Manchester, consisting of a great number of varieties of Cos and Cabbage forms, the latter type greatly predominating. The plants were shown chiefly in pairs, and were planted as if growing in a bed of cocoa fibre refuse. On a table 3 feet wide and 30 feet long, the rows generally comprised four plants. No such a capitally set up exhibit of this nature has ever been seen at the Drill Hall. Apart from the very fine samples shown, their wonderful freshness and solidity, the method of staging was literally an object-lesson, and the whole exhibit won universal praise. This enterprising Manchester firm are to be congratulated on the success which has thus attended their exhibit, as a Gold Medal was unanimously awarded to it. The plants were all from a sowing made in the open ground in the spring, and not transplanted, but merely thinned. The finest Cos forms were Champion White, Paris Green, Par Excellence, Giant Market, and Balloon or Mammoth; the best of the smooth-leaved Cabbage varieties were Lord Kitchener (something like Leyden), White Dutch, very fine; Destruction, also very fine; Fearnought, remarkably solid and of medium size; Paragon, green, slightly tinted with red; Erfurt Thickhead, like Destruction, but less solid; University, of great size, slightly coloured; Queen of Lettuces, much like the preceding; and the well-known All-the-Year-Round. Yellow varieties were Large Yellow, Buttercup, and Rudolph's Favourite; crumpled forms were Continuity, Favourite, Wonderful (dark green), Bossing's Giant, Staghorn (much lacinated), Neapolitan, Supreme, Large Brown, and others.

Lecture on Edible Fungi.

In connection with the exhibition of edible Fungi, an illustrated lecture on the subject was given by Dr. M. C. COOKE, V.M.H. After excusing himself for treating the subject from a popular and gastronomic rather than a botanical point of view, the lecturer intimated four types or groups which include the majority of edible fungi, under the popular names of (1) Mushrooms, (2) Morels, (3) Truffles, and (4) Puffballs.

After detailing the principal features in the structure of the Mushroom tribe, or Agarics, he proceeded to

describe the characteristics of the following species, which he had selected as the best representatives of British edible fungi, all of which were illustrated by enlarged coloured diagrams:—

The cultivated Mushroom, *Agaricus campestris*.
The Wood Mushroom, *Agaricus sylvicola*.
The large Mushroom, *Agaricus viliaticus*.
Berkeley's Mushroom, *Agaricus elvensis*.
Horse Mushroom, *Agaricus arvensis*.
Bleeding Mushroom, *Agaricus hemorrhoidarius*.
St. George's Mushroom, *Tricholoma gambosa*.
Blewits, *Tricholoma personata*.
Blue Caps, *Tricholoma nuda*.
Dusky Caps, *Clitocybe nebularis*.
Parasol Mushroom, *Lepiota procera*.
Shaggy Caps, *Coprinus comatus* (see fig. 66).
Chantarelle, *Cantharellus cibarius* (see fig. 87).
Fairy Ring Champignon, *Marasmius oreades* (see fig. 88).

Edible Boletus, *Boletus edulis*.
Rough-legged Boletus, *Boletus scaber*.
Morels, *Morchella esculenta*.
Morels, *Morchella semilibera*.
Morels, *Morchella smithiana*.
Grey Helvella, *Helvella lacunosa*.
White Helvella, *Helvella crispa* (see fig. 85).
Great Puff Ball, *Lycoperdon bovista*.
Truffles, * *Tuber aestivum* (see fig. 80).
French Truffle, *Tuber melanosporum* (see fig. 81).

Of the above series, the first seven belong to the purple-spored group; the succeeding five, with the Chantarelle and *Marasmius*, to the white-spored group. The shaggy caps to the black-spored group, all belonging to the Agaricini. The two species of *Boletus*, to the spore-bearing order. The three Morels and two *Helvellas*, to the asci-bearing group, or *Ascomycetes*, as well as the two species of Truffle; whilst the one Puff-Ball represents that family known to science as *Gastromycetes*.

The lecturer announced that he had certainly eaten of no fewer than eighty British species, to which he added, "And yet it is probable that quite half of this number, if not more, were simply capable of being eaten without personal injury, but with nothing better to recommend them. I venture to think that the number of esculent species found wild in this country, and which are really worth the trouble of collecting and eating, are few in comparison with the number which may be eaten without inconvenience, and therefore are classed as edible. And, even with the best, so much depends upon the capacity of the cook that their doom may be sealed in the kitchen."

It ultimately transpired that no fewer than 250 indigenous species of fungi are practically edible. It was recorded of the 20th annual International Culinary Exhibition held in the Tuilleries Garden, Paris, April 17, 1903, "On entering, the visitor nearly walks into a tiny Mushroom garden, with a hundred sorts of edible fungi growing, or trying to grow, in little banks of earth." That would be a sight worth seeing!

EXHIBITION OF EDIBLE AND POISONOUS FUNGI.

THIS exhibition was a comparatively small one, partly owing to the date being three weeks too early for the general appearance of the larger fungi, and partly to the early advent of autumn frosts. The naming of the specimens was very imperfectly carried out, and the mysterious explanatory "experts" that had been announced so extensively were conspicuous by their absence. On the overworked shoulders of our good old friend, Dr. Cooke, lay most of the work, and he was obviously over-tired. With one exception, all the naming of specimens that was done was in his clear handwriting.

The first table on the right on entering was occupied by a first-class but small exhibition by Mr. J. F. RAYNER, of Ivy Bank, Highfield, Southampton. All the specimens were good, clean, and perfect, and set out in an orderly manner. A considerable number of these had names in Dr. Cooke's handwriting; they included a splendid group of the Chantarelle—*Cantharellus cibarius*, the Liver Fungus—*Fistulina hepatica*, *Boletus bovinus*, B. *edulis*, and B. *scaber*; *Agaricus fusipes*, A. *rubescens*, A. *vaginatus*, *Marasmius oreades*, *Lactarius deliciosus*, and *Hydnum repandum*. There were, however, no notes as to the edibility or otherwise of the plants exhibited.

* A full description of true and false Truffles, by Mr. Worthington Smith, was published in the *Gardeners' Chronicle* for April 5, April 23, and May 10, 1890.

The next group was sent by Mr. CARLETON REA, of Worcester, one of the keenest mycologists we have in this country, the examples were all good, and most of the fungi had labels attached in Mr. Rea's well-known handwriting; but a number of labels were on the left hand of the exhibit, with no accompanying fungi; other of the labels had been placed incorrectly or had got misplaced by exhibitors; for instance, *Hygrophorus chlorophanus* was labelled *Agaricus phalloides*, which is quite as absurd as if an Orchid "expert" had called one of our friend Cannell's Carrots *Odontoglossum crispum*.

Mr. Rea's notes were instructive. He explained that a small puff-ball named *Lycoperdon pyriforme* tastes "very sweet, like brains," when cooked. He did not say that it causes constriction of the throat if tasted uncooked. *Agaricus infundibuliformis* was truly stated to be a "very nice, delicious esculent" when cooked; and that others, as *Lactarius glycosmus*, *Paxillus involutus*, and *Russula cyanoxantha*, were esculent and in some cases "delicious." He also explained that *Hydnum repandum* required three hours "cooking," and *Cantharellus cibarius* four hours "cooking." *Agaricus prunulus* was truly described as a "delicious esculent," *A. fusipes* a "tender and tasty esculent," *Hygrophorus conicus* as "fairly good," *H. miniatus* as "very delicate and nice-tasted." The "delicious esculent" named *Boletus edulis* must, it was stated, be "well cooked"; no method of cooking was, however, indicated. It is not every cook who can cook a *Boletus*, or who is willing to stand for four hours playing with a *Cantharellus*. Amongst unnamed examples were *Boletus radicans* and *Agaricus sinuatus*.

Under *Agaricus vaginatus* Mr. Rea stated that "both the fulvous and mouse-coloured forms are of the best esculents we have in England." I have known both forms to cause profuse perspiration and illness; and only a few days ago a case of serious poisoning from the consumption of this species was laid before the authorities of the British Museum.

The third display was a rather extensive one, sent by Messrs. A. CLARKE and C. CROSSLAND, of Halifax. None of the examples had a scrap of information either as to the names or qualities of the plants exhibited. Either of the gentlemen named could have easily supplied the names, and both were present in the Drill Hall.

At the end of this table was an uncommonly good collection sent by Mr. WILLARD, of Holly Lodge. In the middle was an enormous example of a foreign woody *Polyporus*; on the right were poisonous species, and on the left edible ones. These had all been named by Dr. Cooke, and it was the only collection he could find time to attend to. Amongst the poisonous species were some of the best known forms, as *Agaricus phalloides*, *muscarius*, *ærguginosus* *Mappa*, and *pantherinus*, *Lactarius rufus*, *piperatus*, and *vellerius*, *Russula drimeia*, *Boletus felleus*, and *Scleroderma vulgare* (see fig. 214).

The collection of edible species was very good, and included *Agaricus procerus*, *rachodes*, *arvensis*, *infundibuliformis*, *vaginatus*, and notably a grand collection, with spawn, of *elvensis*, *Coprinus comatus*, and *atramentarius*, *Lactarius deliciosus*, *Craterellus cornucopioides*, *Marasmius oreades*, *Boletus edulis*, and *Fistulina hepatica*. Amongst the edibles, Dr. Cooke, who superintended this group, laconically labelled some "may be eaten," but with what probable result the Doctor did not venture to say. He said that *Lactarius turpis* "may be eaten," but if *L. turpis* is an esculent, its specific name should be altered, if "turpis" really means ugly, foul, and filthy.

There was one other exhibit at the further end of the hall on the right-hand side (on entering), forwarded by A. L. SMITH, Esq., Silvermere, Cobham. This was a large and good exhibit, but practically without names. Dr. Cooke had named a very few, and the others were mixed, in some instances poisonous and edible in the same group, as the esculent *Boletus edulis* with the poisonous *B. felleus*. Names might have been easily supplied, but the all-willing doctor had no time, and "experts" were a mere myth.

Only two true Mushrooms were exhibited, although the Horse-Mushroom, confused in some instances in the Drill Hall with *Agaricus xanthopus*, was well represented; some of the exhibitors, notably the last-mentioned, had more or less cut off the stems, and by doing so had ruined the examples for instructive purposes. Many species of botanical interest, as *Spazassia crispata*, *Paxillus atro tomentosus*, were present. W. G. S.

ROYAL CALEDONIAN HORTICULTURAL.

WE publish the following list of Awards made at the above Exhibition on September 9, which we were unable to insert in our last issue:—

AWARDS OF MERIT

to Messrs. Dobbie & Co., Rothesay, for Cactus Dahlia Lucifer, and Fancy Dahlia Wm. Skeldon, and for Fuchsia R. H. Hennel; to Messrs. J. Grieve & Sons, Pirrig, for Chrysanthemums Janet H. Grieve (white), and C. J. Cutler Grieve (brown and bronze).

FIRST CLASS CERTIFICATE

to Carnation Francis Samuelston, shown by Mr. G. F. Brotherston, gr., Breckenburgh Hall, Thirsk.

The following Awards were made to Nurserymen and others for Plants, &c.:—

GOLD MEDALS

to Messrs. Cuninghame, Fraser & Co., Comely Bank, Edinburgh; Messrs. Dobbie & Co., Rothesay; Messrs. Sander & Co., St. Albans; Messrs. Laing & Mather, Kelso; Messrs. Methuen & Sons, Edinburgh; Messrs. Todd & Co., Edinburgh; and to Messrs. R. B. Laird & Sons, Ltd., Edinburgh.

SILVER GILT MEDALS

to Messrs. Dickson & Co., Waterloo Place, Edinburgh; Messrs. Storrie & Storrie, Dundee; Mr. John Downie, Edinburgh; Messrs. Wm. Thomson & Sons, Clovenfords.

SILVER MEDALS

to Messrs. Blackmore & Langdon, Bath; Messrs. Campbell & Sons, Blantyre; Messrs. Jas. Dickson, & Sons, Edinburgh; Mr. Henry Eckford, Wem, Salop; Mr. John Forbes, Hawick; Messrs. J. Grieve & Sons, Edinburgh; Mr. Theodore Jannock, Dersingham; Messrs. A. Lister & Sons, Rothesay; Mr. Lawrie, Roselea, Prestwick.

BRONZE MEDALS

to Messrs. Kent & Brydon, Darlington; Mr. J. Rowatt, for Pentstemons; Mr. Dutton, Bexley Heath, Kent.

ANCIENT SOCIETY OF YORK FLORISTS.

SEPT. 9.—This old-time Society is showing vigour by striking out a new venture in the shape of a Dahlia show. It is hoped the interest shown by the city residents and others may enable the Committee to have an annual exhibition. They are very favourably situated in having the use of the very commodious, well-lighted building in which the Chrysanthemum shows held.

The President of the Society, Sir Joseph Sykes Rymer, opened the show about 2 P.M., and congratulated the Committee in having got together such a very interesting exhibition of Dahlias and other autumn flowers.

It may here be mentioned that the Society holds what they term four minor shows each year in the old Guildhall. No charge for admission is made on these occasions. The fourth minor show was the stock on which the Dahlia show was worked.

In the class for a miscellaneous group of foliage and flowering plants, Mr. COTTAM, florist, Cottingham, was well 1st; 2nd, Rev. G. YEATS, York.

Mr. COTTAM was also 1st for a table group of Cactus Dahlias with any sort of foliage; *Asparagus* in variety was used.

For a table group of Gladioli 6 feet by 4 feet, Messrs. HARKNESS & SON, Bedale, was well 1st, with some splendid spikes of flowers; Mr. W. HUTCHINSON, Kirby Moorside, being 2nd. The same exhibitors occupied similar positions in the class for a table group of herbaceous perennials and annuals. Mr. COTTAM was 3rd with a tastefully-arranged table; but the flowers lacked size, colour, and distinction. The last-named exhibitor won the prize offered by Messrs. KELWAY, Langport, for similar quantity of plants, but confined to those named in their catalogue. Perhaps the most interesting bit of colour, form, and general ensemble in the show was that part of it set apart for annuals in bunches of twelve, six, and three kinds. This was a good competition, the 1st prize being won by Mr. W. HUTCHINSON, with a most excellent exhibit.

DAHLIAS.

For thirty-six flowers, show or fancy distinct, Mr. S. MORTIMER, Farnham, was 1st, his best flowers being John Hickling, Perfection, F. Mortimer, Archie Mortimer, William Rawlings, Rosamund, Imperial, and Arthur Rawlings; 2nd, Messrs. CRAY & SONS, Fromefield; 3rd, Mr. B. STRINGER, Cross Gates, with Yorkshire grown flowers.

For forty-eight Cactus Dahlias, Mr. W. BAXTER, Woking, Surrey, was 1st; Mr. S. MORTIMER was a very close 2nd. His collection lacked the variety in colour as compared with the first lot, but it had finer individual flowers. Mr. CLARK, Rodley, Leeds, was 1st in the class for twenty-four show and fancy varieties

distinct, confined to members of the Ancient Society of York Florists. There was a very fine lot of exhibits both in the classes for Pompons and singles.

The trade exhibits were in themselves a nice show. Messrs. HOBBS (John H. Green), Dereham, was awarded a Gold Medal for a very fine exhibit of Cactus Dahlias, Tea Roses, Clematis, and Gladioli. Messrs. R. H. BATH & SONS, and Mr. HOUSE, Peterborough, were awarded Silver Medals—the former for Dahlias, Gladioli, Phlox (herbaceous); and the latter for a fine exhibit of hardy perennials in fine variety.

NATIONAL DAHLIA.

SEPTEMBER 11, 12.—The National Society held their Northern show at the Royal Botanic Gardens, Old Trafford, on the above dates, the grand annex looking quite charming with the wealth of colour which the trade more especially brought together.

Considering the damaging weather there was but little fault to be found with the blooms, while the staging in every department was deservedly praised.

SHOW AND FANCY VARIETIES.

In the open class for thirty-six Show and Fancy, Mr. C. TURNER, Slough, was 1st with a capital stand of flowers, the best of which were Miss Cannell, W. Garrett, Colonist, Maud Fellows, J. Walker, R. T. Rawlings, Mrs. Langtry, Merlin Warrior, J. T. West, Arthur Ocock, Duchess of Albany, and Arthur Rawlings; Mr. S. MORTIMER, 2nd, with good blooms of S. Mortimer, Clara, J. B. Service, and A. Pearce; 3rd, Mr. J. SMELLIE, Busby.

Twenty-four distinct Show and Fancy.—1st, Mr. M. V. SEALE, Sevenoaks, with a splendid stand consisting of Gracchus, Reliance, Mabel Stanton, Daniel Cornish, Jno. Hickling, Jno. Nicholson, Harry Keith, S. Mortimer, Wm. Powell, Warrior, and A. Rawlings.

Twelve distinct Show and Fancy.—Messrs. J. CHEAL & SONS, Crawley, were 1st with large, finely-formed flowers of Maud Fellows, Dr. Keynes, Mrs. Gladstone, Wm. Rawlings, Florence Tranter, and Arthur Ocock; 2nd, Mr. T. JONES, Bryn Penylan, Ruabon.

CACTUS DAHLIAS.

These were in superior condition throughout and created no small attention, the class for twelve varieties in bunches of six blooms bringing forth severe competition. Mr. STREDWICK, Silverhill Park, St. Leonards, was 1st, with a stand faultless in every respect; Mrs. Mawley, O. Twist, H. J. Jones, Mrs. J. W. Wilkinson, Columbia, F. Stredwick, Mrs. H. L. Bronison, Rainbow, Ella Kremer, Falcon, Comet, Osprey, were the varieties. Messrs. KEYNES, WILLIAMS & Co. followed closely; 3rd, Messrs. CHEAL.

For twenty-four blooms distinct.—Messrs. KEYNES, WILLIAMS & Co. somewhat easily took the position; Ianthe, Mrs. H. J. Jones, Winonie, Raymond Park, James Bryant, Khaki, Minnie West, and Reliance were all admirable. 2nd, Mr. J. SMELLIE; 3rd, Mr. W. TRESEDER.

For twelve varieties, six blooms of each, arranged in vases, with any suitable foliage, grasses, or berries, the quality of the blooms being the first consideration.—A decisive victory was gained by Mr. SEALE, who had magnificent flowers of J. W. Tullock, Ajax, Jno. Burn, and Gabriel; the decorative portion was admirably carried out with grasses, tinted foliage, and berries in variety. Messrs. KEYNES, WILLIAMS & Co. were 2nd; and Mr. W. TRESEDER, 3rd.

POMPONS.

This pretty type of Dahlia was well represented; Mr. C. TURNER, Slough, was 1st with E. Hopper, Bacchus, Daisy, Silvio, Darkest of All, and Nerissa in superb condition. Mr. M. V. SEALE, 2nd; 3rd, Messrs. KEYNES, WILLIAMS & Co.

SINGLE FLOWERED DAHLIAS.

As in the previous class, these consisted of twelve varieties in bunches of ten, and the blooms staged by Messrs. J. CHEAL & SONS were excellent, the best being Vesuvius, Amos Perry, Miss Morland, Victoria, and Columbus; Mr. M. V. SEALE was 2nd, with small flowers, neat and of good colour.

AMATEURS.

This section has been seen to better advantage, but many of the show and fancy varieties were of very high quality. Mr. T. JONES, Ruabon, gained honours for eighteen blooms, with Perfection, Mrs. W. Slack, Mrs. Langtry, S. Mortimer, and Mabel Stanton; 2nd and 3rd, Messrs. E. T. MATTHEWS and T. SHAWCROSS. The latter exhibitors were well to the fore in many other classes. For twelve blooms distinct, 1st, J. PILLING, Hyde.

The new seedlings which received Certificates were Rainbow, rich rose colour; Comet, a flower of the deepest mauve, striped crimson; Hereward, cream coloured, splashed with violet; George Gordon, light yellow; and Mary, a red-and-white pompon Cactus.

TRADE EXHIBITS.

The trade was represented by Messrs. DONNIE & Co., Rothesay, who showed a table 60 feet long, handsomely

arranged with fine herbaceous perennial and florists' flowers. Their Dahlias too formed a great feature (Silver-gilt Medal).

Messrs. HOBBIES, Ltd., showed an artistically arched background with Smilax trailing over the arches; also pyramids of Roses, including the new Dorothy Perkins and Souvenir de P. Notting, and many new varieties of Dahlias (Large Gold Medal).

Messrs. J. H. WHITE & SON, Worcester, had also a heavy stand of herbaceous perennials, florists, and other out-of-doors flowers. The Tomato White's Majestic is rightly named, seven fruits weighing together 3½ lb. (Gold Medal).

A novel idea came from Messrs. DICKSON & ROBINSON, Manchester, who filled a very large space with fully-developed Lettuces bedded-out. They were excellent, and created no little curiosity. We name the finest varieties in our report of the Drill Hall meeting on Tuesday last. They had besides a fine display of Gladioli and Dahlias (Large Gold Medal).

Mr. JNO. ROBSON took the Gold Medal for a choice collection of perennial herbaceous plants and flowers, and a Silver-gilt Medal for a collection of Dahlias, arranged effectively (Silver-gilt Medal).

Messrs. DICKSON, BROWN, & TAIT staged seventy dishes of Tomatos in fifty varieties: Queen Alexandra (an enormous cropper, new), Crimson King, Invincible, and Early Empress were conspicuous (Gold Medal).

Messrs. DICKSONS, Ltd., Chester, were awarded a Silver Medal; Mr. A. J. A. BRUCE, Chorlton-cum-Hardy, a Silver gilt Medal; and Mr. W. L. PATTISON, Nottingham, a small Silver Medal.

Messrs. EDWARDS & SONS, Nottingham, had their Edwardia ware in many varieties.

Mr. WEATHERS was, as usual, most courteous to all visitors and exhibitors.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

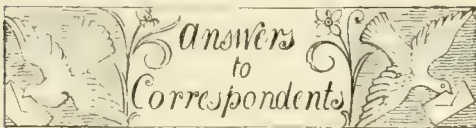
At the recent monthly Committee Meeting, four new members were elected, and four were reported on the Sick Fund.

The Annual Dinner will be held at the Holborn Restaurant, on Tuesday, October 27 next, at 6.30 P.M., when Mr. Peter Barr, V.M.H., has kindly consented to preside. The Committee hope that all members and friends who can attend will do so.

NATIONAL CHRYSANTHEMUM.

SEPTEMBER 21.—The first meeting of the Floral Committee of the above Society will take place on the above date in the Essex Hall, Essex Street, Strand. This is the first of three meetings arranged to be held in Essex Hall, the succeeding two being on October 23 and November 23, both at 8 P.M.

The remainder of the meetings of the Floral Committee will take place at the Crystal Palace on the dates fixed for the usual three exhibitions, viz. October 6, November 10, and December 8. On these three occasions the meetings will be at 1 P.M. The first meeting of the Executive Committee of the Society will be held at 7 P.M. on the 21st inst. at the old business quarters of the Society, Carr's Restaurant, 285, Strand.



**** EDITOR AND PUBLISHER.**—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are mis-directed.

ASTERS FROM GERMANY: M. Roemer. We regret that the Asters were crushed and quite withered.

BEECH BARK COVERED WITH A WHITE WOOLLY COAT: No letter, in Tin Box. This covering is not a fungus, but is deposited by the Beech aphid, *Chermes fagi*. It is often associated with *Nectria ditissima*, which under these circumstances brings about the destruction of the cortex, but does not cause canker. If the tree is not very large you might wash all affected parts with petroleum emulsion.

BELVOIR CASTLE: P. O. This place is situated in Leicestershire.

BERRIED SHRUB, & C: J. K. R. *Cratægus Le-landi*. The herb sent is not Tarragon. The Melon leaves are infected with a fungus *Cercospora Melonis*, often mentioned in the *Gardeners' Chronicle* this year.

BOOKS: D. E. *Villa Gardening*, by E. Hobday, published by Macmillan, would suit your purpose well.

CARNATION SEEDLING: H. Elliott. The flower you have named *Pride of Hurst* appears to possess much merit. The rose colour is clear and good, the petals full and round, and the calyx remains unbroken. We hope the habit of growth of the plant is satisfactory.

CHRYSANTHEMUM PEST: Thos. Watmore. *Anthracis nemorum*, Linn., in all stages. It is one of the plant-bugs, and, like the plant-lice, pierces the cuticle to feed upon the juices of the plant, causing injury by parching up the leaves and flowers, or covering them with blotches. The most successful way of destroying these pernicious pests is by jarring the plants over a piece of tarred canvas. Keep your plants well in the open, and away from any other kind of vegetation. Other plants harbour the bugs. R. N.

CINERARIAS DISEASED: W. Tea. The leaves are attacked by mildew, and they should be syringed, laying the plants on their sides, with sulphide of potassium ½ oz., water 1 gallon, repeating this weekly for a month. Clear out the frame or pit, and afford it a good sulphuring by igniting some rags dipped in melted sulphur, being careful not to let the fumes come into contact with any living plant.

CLUBBING IN BRASSICAS: E. Reed. We are unable to republish the entire note on this subject that appeared on p. 94 of our issue for February 7 last as you suggest, but we will give the chief points of Mr. Massee's remarks:—"The germs are hungered out if the soil is kept free from Crucifers, cultivated or wild, for four years, their exit being hastened by the use of (quick) lime. If the growing of Brassicas cannot be postponed for so long a time, as much quicklime as is compatible with the healthy growth of the plants should be intimately mixed with the soil to the depth of 6 to 8 inches. If gas-lime be used, lay it on the land 1 inch thick, letting it remain for four weeks and then pointing it in. No planting should be done for six weeks. This application of quicklime or gas-lime should take place in the winter. Plants are mostly attacked in the first six weeks of their existence, and those that escape for that period do not, as a rule, become diseased on being planted on infected soil! Shepherd's Purse should be carefully weeded out. The fungus could not cross a narrow garden path, but could be easily transmitted by garden tools or the workman's boots." The issue in which the note appeared was that for February 7, 1903, p. 94, and may be obtained from the Publisher.

FERN FRONDS BROWNED: C. G. The Fern fronds have been attacked by thrips, and probably the nature of the glass on the roof and the lack of shading may have contributed to the damage, as you suggest.

IPOMEAS LEARI AND RUBRO-CERULEA: J. S. H. I. *Leari* has flowers that vary in tint from lilac to dark purple, whereas those of I. *rubro-cerulea*, which are more than 3 inches across, are red, blue, or purple. Leaves membranaceous, much veined; short acuminate; peduncle fleshy; three to four flowered; flowers 3 to 4 inches wide, the tube and limb of which are red before expanding finally purple or China blue. There are a blue and a white form. I. *rubro-cerulea* is a greenhouse climber, growing 9 feet high. I. *Leari* is rather shrubby at first and requires the heat of a stove or intermediate-house for its successful cultivation. The flowers you sent packed in cotton-wool arrived in a woeful condition, and were practically useless. We are not surprised that your nurseryman sent you the wrong plant, the names being much mixed. The leaves (three-lobed) sent as those of I. *Leari* appeared to be right.

MEDICAL ATTENDANCE: K. W. G. The gardener is classed as a domestic at law in so far as regards the Servants' Tax and notice to quit service, but he is not on the same footing as the indoor domestic as regards medical attendance in case of illness; and although we have known cases in which the employer has generously paid his gardener's doctor's bills, but such payment is a matter of favour, not a right that can be enforced. The young gardeners who may be living in a bothy are in some gardens allowed medical attendance free of cost.

MICROSCOPE FOR BOTANICAL PURPOSES: J. C. The price runs from £5 to £50.

MUSCAT OF ALEXANDRIA GRAPES DISEASED: E. Seymour. The fruits are suffering from infestation by the so-called "spot" fungus, *Glæosporium ampelophagum*, for which there is no known cure. For a description and figure of this fungus see *Gardeners' Chronicle*, July 8, 1893, p. 33. The fungus attacks the leaves and soft growth as well as the fruits, and springs from within, the thread-like mycelium having punctured the epidermis, the spores exuding and forming a crust on the surface. Flowers-of-sulphur and finely-powdered lime may be used against it. Dew, rain and syringing wash the spores about and help to spread the fungus.

NAMES OF FRUITS: F. B. 1, Worcester Pearmain; 2, Byford Wonder; 3, Stirling Castle; 4, Warner's King; 5, Lane's Prince Albert; 6, Lord Suffield.—E. Burnham. Your Apple under the name of "Old Man" we should say is a local variety. In our opinion it has little to recommend it when compared with the fine sorts now in commerce.—H. W. Worcester Pearmain.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—*Constant Reader*. *Corydalis lutea*, South European, but long naturalised in this country. J. T., *Southend*. A species of *Basella*; send matured shoots together with flowers.—P. T. W. Z. *Nephrodium setigerum* (Baker) var. *cristatum* (Hort.).—C. W. *Strickland*. *Platanus orientalis* (typical Oriental Plane).—C. O. *Quercus alba*.—A. M. 1, *Sedum acre*; 2, *Eupatorium maculatum*; 3, *Ligustrum japonicum*; 4, *Ruscus aculeatus*; 5 and 6, *Ligustrum japonicum*.—J. M., Nottingham. 1, *Oncidium carthagenense*; 2, *Masdevallia coccinea*; 3, *Davallia Tyermanii*; 4, *Phrynium junceum*; 5, *Lastrea aristata variegata*; 6, *Doodia lunulata*; 7, *Doodia aspera*.—H. C. 1, specimen immature. Cannot be named from leaves only; 2, *Tanacetum vulgare crispum*; 3, *Saponaria officinalis flore pleno*; 4, *Monarda didyma*.—C. G. 1, *Nothochlæna tenera*.

NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE: T. W. Apply to the Secretary, Mr. R. Dean, Ranelagh Road, Ealing, W.

PHALÆNOPSIS RECENTLY IMPORTED: A. K. Anderson. Suspend them in a warm moist house of ordinary stove-house temperature, lightly syringing them morning and afternoon. On showing signs of rooting and growing put them in small pans or baskets and suspend them in the same house, using sphagnum-moss as a potting material.

SCLEDERMA VULGARE (FALSE TRUFFLE): T. Edwards. Sometimes used in *pâté de foie gras* instead of the true Truffle. It is not very wholesome (see fig. 84).

WRITTEN NOTICE OF DISMISSAL: Anxious. We think that as the notice reached you, although it was not put into your hands, you are bound to take it as a sufficient notice.

COMMUNICATIONS RECEIVED.—C. S. & Co., Ltd. (we will endeavour to do so)—F. W. B.—D. McD.—B. & Sons—W. P.—H. W. W.—W. L. B.—B. A.—W. P.—W. H. R. & Son, Ltd.—A. M.—E. M.—G. Wythes—W. M.—Albus—P. W. T.—R. J. A.—W. J. M.—F. G. G.—G. H. H.—A. H.—T. H. S.—Tweed—W. Baylor H.—Orchid—E. R.—Howden & Co.—J. C. & Sons—J. R. J.—H. S.—E. D.—Expert—Dr. B.—Baron Schroeder—Mewsbrook—A. Perry—E. H. M.—B. L. C.—E. F.—W. E. B.—Coniferæ—F. G.—V. N. G. & Co.—The Rambler.

(For Markets and Weather, see p. z.)



VIEW IN THE GARDENS OF HORACE BARRY, ESQ., HOME PLACE, LIMPSEFIELD.



THE

Gardeners' Chronicle

No. 874.—SATURDAY, SEPT. 26, 1903.

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DO VARIETIES OF CULTIVATED PLANTS WEAR OUT?

THE opinion that any variety of plant which is continually propagated asexually by buds or cuttings must in the course of time deteriorate is very generally held, though it is not always easy to gather the evidence in its favour. The deterioration is sometimes supposed to be one of quality—if a flower it falls off in size or in character, if in a fruit the flavour is affected; but the more general opinion is that the constitution of the race gets weaker, and the stock becomes delicate and more susceptible to disease. Amongst gardeners the most commonly quoted example is the "Ribston Pippin" Apple, which is to-day notoriously liable to canker on any but the kindest soils; again the West Indian varieties of Sugar-cane are supposed to have become more liable to fungoid disease and less productive through their continuous propagation from stools.

The first man to give expression to the idea that varieties deteriorate with age seems to have been T. A. Knight, who found a difficulty in re-establishing healthy stock of several of the Apples he found as old trees in the Herefordshire orchards, even when grafted upon fresh stocks, and so came to

the conclusion that those particular races were aged and worn out. Since all the asexually reproduced examples of a given variety must be considered as only parts of the original seedling, Knight suggested that each individual possesses a limit of age; and the various parts of it, however multiplied and scattered, must approach that limit simultaneously.

Darwin is often considered to have lent the weight of his judgment to the support of the same idea; but the only passage we have been able to find is hardly apposite—"Several distinguished botanists and good practical judges believe that long-continued propagation of cuttings, runners, bulbs, &c., independent of any excessive development of those parts, is the cause of many plants failing to produce flowers or producing only barren flowers—it is as if they had lost the habit of sexual generation. That many plants when thus propagated are sterile there can be no doubt, but as to whether the long continuance of this form of propagation is the actual cause of their sterility I will not venture, from want of sufficient evidence, to express an opinion."*

Long prior to this, in 1845, Lindley had discussed the same opinion, and pronounced against Knight's view, but as the matter is one of considerable practical importance, it may be well to review the evidence that is now available, especially as it may lead men with long experience of particular plants to put forward other cases with which they may be acquainted, and so provide material for a sound judgment.

At the outset it should be remembered that no argument can be founded upon the disappearance of varieties, famous in their day, from our shows or catalogues; in all directions the progress of horticulture has been so rapid that an old variety soon becomes outclassed and displaced by a new introduction which is in some respect a "beat" upon the old favourite. The persistence of an old variety possessed of sufficient quality to remain unexcelled by the rising competitors is, however, a case in point; what is wanted is evidence that the old variety, while the habit of the fruit or flower is unimpaired, retains or loses its constitutional vigour.

Again, we must exclude from our consideration the well-known vigour and flush of growth which characterises all seedlings, especially hybrids and wide cross-breeds, in the first year or two of their existence. From other points of view a seedling is somewhat unstable, and does not always show its true properties at first. The question is whether when once the seedling has settled down to its normal condition it can retain that character unimpaired by age and continuous asexual reproduction.

The case of the Ribston Pippin has already been cited; undoubtedly this variety possesses an indifferent constitution to-day; but was it ever otherwise? The earliest notices we have been able to find of the Ribston Pippin all speak of it as liable to canker, and a shy bearer on many kinds of soils. Knight quotes the Golden Pippin Apple as one that had become weak, and which he was unable to rejuvenate by grafting on to young stocks, but in 1845 Lindley declared that the Golden Pippin

returned to England from France in a vigorous condition; nor would it be difficult to find this Apple flourishing in the West Country at the present time. *Per contra*, Apples are still grown, like the Old Nonpareil and the Catshead, which run back to Elizabethan times, as far at least as can be decided from description and name in our earliest books on fruits. Among Grapes not only are many of our house varieties of great age, but there seems no break in the cultivation of some of the wine Grapes from Roman times to the present time, Columella's *Vitis præcox* being identified with the Morillon noir hâtif, or early black July Grape. Roses have undergone greater change, the constant introduction of newer varieties having swamped most of the old ones; still, all the Banksian Roses must be derived from Kerr and Fortune's introductions in 1807 and 1824, and the copper and yellow-flowered Briars were introduced by Gerard in 1596. Apples, Grapes, and Roses are however long-lived individuals, so that the wearing out of the race may be a very slow process; but can any different evidence be derived from herbaceous perennial plants whose duration is presumably shorter? Lindley quotes the case of the Jerusalem Artichoke, which, as it never perfects seed in this country, must have been reproduced by tubers since its introduction in 1617.

Among florists' flowers the Tulip possesses perhaps the most thoroughly recorded history, and several are still to be found in our collections that are well over a hundred years old. "La Vandicken" appears in a catalogue of 1772, and was shown in good style at the Northern Tulip Show this year; it is certainly a poor grower, but this appears to have been its character from the first. "San Josef" and "Heroine," or "Triomphe Royale," were well known in 1798, and are vigorous enough and in good character to-day, though of Heroine, Mr. Bentley writes in his descriptive catalogue, "Age appears to be telling, and good feathered examples are scarcer every year." "Count," or "Comte de Vergennes" has been grown in this country for more than 130 years, and is a sturdy grower, still shown, despite the faults which have always characterised it. But notwithstanding these and other examples of longevity which might be quoted, there is a general feeling that Tulips eventually lose their character; as Mr. Bentley says in another place, "Like many other old kinds, it seems to have lost its refinement, and blooms in a muddled flamed condition."

Among fancy Carnations "Admiral Curzon" (Scarlet Bizarre) is recorded to have first bloomed in 1844, and though it has never been a particularly strong grower, it has been practically at the head of its class for fifty years, and even now it has only one competitor in "Robert Houlgrave" for the premier position. In this case there is no evidence of loss of either quality or vigour, the latter never very great. There are one or two Auriculas which possess even a longer history; Page's "Champion" is figured in Sweet's *Florist's Guide* in 1827, and mentioned in Hogg's *Manual* in 1824; it is still one of the best among green-edges, and though a poor grower it seems always to have possessed that characteristic. Lancashire's "Hero" is another flower still shown, which was at the head of its class in the forties, and here again there is nothing to show

* *Variation of Animals and Plants under Domestication*, second edition, 1885, Vol. II, p. 153.

deterioration or weakening of constitution. Of other florists' flowers, Chrysanthemums have been subjected to such rapid improvement that there has been no chance of the survival of the older varieties, and the same may be said of Dahlias.

In the Potato we have a good example of a plant propagated asexually on a very large scale, one also where for commercial reasons the vigour and quality of the variety is carefully watched, and here we can find very distinct evidence of deterioration with age. To quote from Mr. W. J. Malden's article on "Potato-growing" in the *Journal of the Board of Agriculture* for March, 1903: "A variety may start its career with a high standard in all . . . features, but in course

it suffers no further deterioration, other than the tendency which so susceptible a plant as the Potato seems to possess of accumulating the germs of disease, carried forward until it becomes difficult to obtain healthy tubers.

Reviewing the whole of the evidence at our disposal, the general conclusion would seem to be adverse to the opinion that varieties deteriorate with age and become worn out; so many positive cases can be produced of their persistence, even among short-lived plants, while the steady disappearance of old sorts may be accounted for by their gradual supersession by new introductions of greater merit either in quality or in constitution. But it is very

or wax-like, white, turning to yellow or ivory-white with age. The flowering branches are slender, and 2 to 3 feet long, and form an elegant wreath-like appearance as they hang from the bush, being borne downwards by the weight of the flowers. Our sketch (fig. 89) was made from specimens obtained from a large and spreading shrub, 14 feet high, growing on the wall of the fruit and kitchen garden at Kilmacurragh, Co. Wicklow, where so many half-hardy trees and shrubs thrive so well. Some idea of the genial climate of that part of the country may be formed by the fact that the Carob, *Ceratonia siliqua*, grows into a large bush 14 feet high, and much more in breadth or diameter, on the opposite wall of the same enclosed garden.

Although probably not hardy in all soils and localities, this distinct and handsome Mexican "Mock Orange" is worth a sheltered and half-



FIG. 89.—PHILADELPHUS MEXICANUS.

(From a Water-colour Sketch by F. W. Burbidge, V.M.H. Two-thirds natural size.)

of years one or all of these features deteriorate, so that it is no longer profitable to grow. . . . The deterioration of all varieties renders it imperative that new varieties be introduced. . . . A bad feature of many of these worn-out varieties is that they readily succumb to disease. As the profitable career of a Potato is of short duration," &c.

But from careful inquiry we are inclined to believe that the features which characterise a new variety of Potato and render it so desirable to the market-grower for a few years only, consist in nothing more than the flush of vigour, generally associated with a certain instability of character and sportiveness, which we have already noted as belonging to any seedling. After a certain time the variety settles down to its environment, and, as may be judged from the many really old sorts still cultivated in gardens,

desirable that men whose experience with particular plants extends over a long period should put on record any definite cases bearing on the point. A. D. H.

PHILADELPHUS MEXICANUS.

ACCORDING to Nicholson, in the Supplement to the *Dictionary of Gardening*, *P. mexicana* is of comparatively modern introduction. Originally it appears to have been introduced from Mexico in 1839, and again in 1898. It is the largest-flowered of all the *Philadelphus*. The plant has solitary, axillary flowers, and being somewhat tender on cold soils and in exposed situations, it is far less common than are the more hardy American and Japanese species. The leaves on flowering shoots are smaller than those of other species, except perhaps those of *P. hirsutus*, and those of its hybrids are of a dark-green colour, and the flowers are 1 to 1½ inch across, very massive

shaded position in gardens near the sea; and of course it may be expected to succeed in the south and south-west of England and Ireland, or in the genial west of Scotland, where many other half-hardy exotic shrubs also do well.

There is a variety of *P. mexicanus*, called *P. m. Coulteri*, introduced, it is said in *Nicholson's Supplement* as recently as 1888; but probably this is a mistake, as the shrub has existed for many years in old Irish gardens, where it is known as the "Rose Syringa." It forms a wall shrub of very erect habit of growth, and rarely flowers except during or after very hot summers. Like the type its flowers are solitary, deliciously perfumed, something like a blend of Orange flowers and Roses, and it differs from all other species or varieties of *Philadelphus* inasmuch as each of its four white petals have a purplish blotch at its base, which contrasts well with the central tuft of golden or yellow stamens.

In connection with the popular name of "Rose Syringa," as used in Ireland, it is curious to find

that Hernandez, *Nov. Plant. Mexico, &c.*, Vol. IV., chapter 10, on p. 107, compares the habits of the plant (*P. mexicanus*) with the Musk Rose, and he says, moreover, that a sweet and agreeable essence is distilled from its flowers. Hooker, in *Botanical Magazine*, vol. 124 (= 3rd series, Vol. 54), says that *P. mexicanus* is scarcely distinguishable from solitary flowered specimens of *P. grandiflorus*, Willd., *Botanical Register*, t. 570, except by its scented flowers, but observes that *P. grandiflorus* is a native of the Eastern United States, from Virginia southwards. *P. mexicanus* was collected by Hartweg, and reared in the Chiswick Gardens of the Royal Horticultural Society about the year 1835. Lindley figured it there in 1842 from a plant 2 feet high only, and having smaller leaves and flowers than native specimens or the Kew plant shows. Hooker further says that the plant appears to be common in Mexico from north to south, growing wild in hedges at elevations of 6,000 to 8,000 feet in Oaxaca and about the city of Mexico. It was also collected in Guatemala, in the department of



MR. EDWIN MOLYNEUX.

Quiché, at an altitude of 6,000 feet, by Mr. J. Donnell Smith and others. Schlechtendal considered *P. mexicanus* to be the *Acuiloth*, or climbing aquatic shrub of Hernandez, who figured it and alludes to it as growing in wet places, and either creeping on the ground or as scrambling up trees. "At Kew Gardens, *P. mexicanus* is trained on the south wall of the Orchid house, where it flowers freely annually in June, but it is not hardy" (Hooker). The perfume is so deliciously aromatic that the plant might be worth the attention of the cultivators of perfume in South France and elsewhere. Other remarks about this species will be found in the *Gardeners' Chronicle*, 1883, vol. i. (new series), p. 753. F. W. Burbidge.

MR. EDWIN MOLYNEUX, V.M.H.

THERE are few better known men among gardeners than Mr. Edwin Molyneux, formerly gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, and now steward to the same gentleman at the same place. Mr. Molyneux's fame rests primarily upon his successes during many years in the cultivation and exhibition of Chrysanthemums. What Chrysanthemum grower is there but has read Molyneux's *Chrysanthemums*? But Mr. Molyneux's experience is not limited to the growing of Chrysanthemums, and we have the pleasure to publish his portrait for the first time in the *Gardeners' Chronicle* in connection with the exhibition of vegetables to be held next week at Chiswick. Many years ago Mr. Molyneux exhibited vegetables for competition, and during

all the subsequent years he has been called upon frequently to judge the produce of others, hence the hints to exhibitors he has written on p. 220 will be helpful to beginners. The following particulars of Mr. Molyneux's career are given in his own words:—

"Born at Sproxtton, near Helmsley, Yorkshire, I commenced my gardening career at Stillington Hall, York, where I stayed seven years, getting a thorough grounding in all departments of a general good garden, where no department was neglected for the sake of giving greater attention to another. The next two years I spent under Mr. Campbell at Sutton Hall, near York, where the cultivation of fruit-trees, kitchen and flower gardening were the main features. After this a short time was spent in Messrs. Backhouse's nurseries in York, and from there I went to Tong Hall, near Leeds, a garden especially noted for Pineapple culture. After making a brief stay there I went to Messrs. F. & A. Dicksons, Chester, who sent me to Major Walter's garden near Birkenhead as foreman, where I stayed three years. Grapes, bulbous plants, especially Hyacinths, Tulips, &c., were exhibited frequently and successfully from these gardens at the shows of the Royal Botanic Society in Liverpool. From there I removed to a small place at Rock Ferry, taking full charge, and won many prizes for exhibits of fruit, especially Grapes, at Liverpool, Manchester, Birkenhead, &c. Here I stayed two years, and then moved to Camp Hill, Woolton, Liverpool, where I remained nearly two years with the father of my present employer, who afterwards bought Swanmore Park, to which place I removed in September, 1878.

"All the houses were rebuilt, and an entirely new garden was formed, to which additions have been made at several times. The garden is what is known as a general one, and all departments are given equal attention. Perhaps the principal features are Chrysanthemums, Grapes, vegetables, hardy plants, shrubs, trees, and lately Roses. Through the great kindness of my employer, who is passionately fond of gardening in all its phases, I have been permitted to hold the privilege of membership of one of the Royal Horticultural Society's Committees for many years."

Mr. Molyneux was awarded a Victorian Medal of Honour in Horticulture at the time of the initiation of the Medal in 1897. His knowledge of practical gardening and horticultural exhibitions is unusually extensive.

TREES AND SHRUBS.

CORNUS AUREA SPATHI.

THE subject of this note forms a very desirable and effective shrub associated with others, or as a solitary specimen on a lawn, the beautiful soft-yellow tint of the foliage forming a striking and pleasing contrast to the surrounding green-leaved plants. To form specimen bushes, the plants from the earliest stage should be cut into shape annually in the autumn, when they have shed their leaves. The shoots, trimmed off from 12 to 18 inches in length, may then be inserted 4 or 5 inches deep in any kind of soil, but preferably in a sandy loam, in rows from 15 to 18 inches apart, and at about 9 inches in the rows. Cuttings thus treated will root in due time and make useful plants the following year, ready for transplanting after the fall of the leaf.

Other good varieties of the Dogwood are *C. alba*, which attains to from 5 to 10 feet in height, according to quality of soil and climatical conditions—it has deep red bark, oblong leaves, and white flowers; *C. aurea elegantissima tricolor fol. variegatis* (Silver-striped), and *C. sanguinea* (common Dogwood), and one of the most effective of our native shrubs. The bark of the young shoots being bright red, the flowers

white, and the fruit purple, renders it a very telling and desirable subject to be included in all shrubbery borders, and also to be planted in irregular clumps on the verge of woods, on either side carriage-drives, &c. All the species of Dogwood are easily rooted, robust growers, and more or less telling in effect, and therefore should be more generally and extensively grown than they now appear to be. H. W. W.

MR. GEO. WYTHES, V.M.H.

IN affording our readers a portrait of Mr. George Wythes, head gardener to the Duke of Northumberland, Syon House, Brentford, he may be described as a typical out-of-doors gardener. Although being at Syon, he is charged with the care of one of the largest conservatories in England, and with a large number of other



MR. GEORGE WYTHES.

plant and fruit-houses, the natural bent of the man is to take the greater interest in the vegetable and fruit gardens, and in the pleasure-grounds and arboretum. Few gardeners have been awarded a greater number of medals by the Royal Horticultural Society for exhibits of vegetables, fruits, and plants which were contributed some years ago from the Syon gardens. He holds two Gold Medals at least for very complete collections of vegetables staged at the Drill Hall. This fact alone should be sufficient to stamp Mr. Wythes as a vegetable specialist; but his interest in vegetables has led him further than mere cultivation, he having raised many new varieties of Potatoes, Cabbages, Vegetable Marrows, Artichokes, &c.; and of fruits, several good varieties of Melon. Most of these have been recognised by the Fruit and Vegetable Committee of the Royal Horticultural Society, and have been distributed through the trade to gardens over the country.

Mr. Wythes has a note upon "Improvement in Vegetables" on p. 221, and in our next issue he will have something to say about certain new varieties. For many years Mr. Wythes has been an active member of the Royal Horticultural Society's Fruit Committee, and was one of the original "sixty" gardeners awarded the Victoria Medal of Honour in Horticulture in 1897. Mr. Wythes has been at Syon for the past seventeen years, having succeeded the late Mr. Woodbridge, and was formerly gardener to the late Lord

Hatherton, of Teddesley Hall, Staffordshire, in whose garden he effected many improvements in a comparatively short term of service. Previous to that Mr. Wythes had experience in many establishments as journeyman, foreman, and head gardener.

HINTS TO EXHIBITORS OF VEGETABLES.

No one will deny that this has been a good season generally for the growth of vegetables. The rainfall may have been excessive for crops growing in heavy retentive soils, but it has been very helpful in others of a lighter nature, and especially where the soil is shallow or rests upon a gravelly sub-soil. Vegetables possessing a considerable degree of perfection have been exhibited, especially by cottagers and amateurs. Now that Shrewsbury is past, the attention of the Vegetable world is centred on the exhibition to be held at Chiswick on the 29th inst., which it is hoped will be better of its kind than any hitherto held. Here we shall expect to see many of the champions enter in friendly rivalry for the Blue Ribbon of vegetable cultivation.

A hint or two to those who have not had much experience in exhibiting may possess interest and be of some use to them. I need hardly say I do not intend these notes for such well-known exhibitors as Messrs. Beckett, Gibson, Bastin, Bowerman, &c., but merely for the beginner.

Selection of the various specimens is a point on which many beginners err. They are apt to attach too much importance to mere size. I do not deprecate size in vegetables entirely. In some kinds of vegetables considerable size is an absolute necessity for the attainment of high quality, while in other kinds size is a serious demerit. Extreme size in Potatos, Cauliflowers, Cabbages, Vegetable - Marrows, Beet, Carrots, Turnips, Mushrooms, Cucumbers and Lettuce is detrimental to appearance and to good quality, and offends good taste. Judges are not at all likely to encourage the exhibition of such produce by awarding first prizes.

In the case of Onions, Peas, Tomatos [? Ed.], Parsnips, Celery and Leeks, size is an advantage if it is accompanied, as it should be, with symmetry of outline and freedom from blemish of any sort. No one will dispute that the larger an Onion is—of the Ailsa Craig type, for example—provided of course it is shapely, with no "neck," thoroughly matured and clear in the skin, the greater recognition it should receive at an exhibition.

It is the same with Peas, a shapely pod of any variety containing ten peas in the best condition for consumption, large individually, of the deepest green, uniform in shape and size, and of good flavour, the pod itself carrying dense bloom on the outside, free from speck of any kind, thrip or otherwise, cannot fail to be superior to one that contains but eight peas. In the case of Carrots, extreme size is detrimental, for seldom, if ever, do large Carrots possess good colour, which is the most valued quality in these roots. If the skin of a Carrot does not carry that rich orange-red tint which is so pleasing, it is hardly likely to possess it in the core. In no vegetable do we look for so much symmetry as in a Carrot; colour, shape, and medium size are necessary for perfection in this vegetable.

Exhibitors of limited experience make a great mistake in selecting their Turnips; seldom do they consider what the inside is like, but study very closely outside appearances, whereas, "Of what use is a 'woody' Turnip?" I would ask. Be certain the inside is firm and juicy, then consider the outside appearance. I need hardly say that blemishes due to wire-worms or other cause cannot be tolerated,

neither can extreme size. The roots should be rather small, firm, shapely, and clear in colour, whether it be white or yellow. I might continue with examples of selection, but fear I have already trespassed on space.

In conclusion I would point out the desirability of obtaining absolute distinctness in varieties. In making a large exhibit such as will be shown in Class 93 at Chiswick, described in the Royal Horticultural Society's Schedule, as a "Collection of Vegetables occupying not more than 50 square feet, Amateurs," I would advise exhibitors not to include any varieties the distinctness of which is not easily apparent. Pay more attention to quality than to mere variety. For instance, an extra dish of Potatos, Tomatos, Onions, or Peas, if of extremely high quality, would be preferred in a close competition before a fanciful dish of any vegetable that may be shown merely for the sake of obtaining variety in the collection, such, for example, as Garlic or a second dish of Spinach. Do not overcrowd the dishes, but arrange them so that no difficulty will be experienced in an inspection of the exhibit by the judges or the public, bearing in mind that this show is intended to be educational. *E. Molyneux.*

ROTTERDAM.

[See Supplementary Illustration.]

THE railway journey from Antwerp to Rotterdam does not appear particularly interesting to the traveller who is familiar with the railway scenery in our own island, the country which is traversed including many hundreds of acres of Fir-trees of medium size, and abundance of water and bog land. The tedium of the journey is broken a little by the overhauling of one's luggage at the Dutch frontier town of Rosendaal, or, if travelling in the opposite direction at the Belgian town of Esschen; and by the great and handsome bridges near to Rotterdam, which are rare instances of the triumphs of engineering.

The horticulturist also notices with interest various nurseries quite close to the station platforms. Amongst these is the celebrated establishment that belonged to the late Charles Van Geert at Calmpthout, and which is now known as the Société Anonyme Horticole de Calmpthout. There are many acres of trees and shrubs cultivated there, and the stock consists of out-of-door plants. A little further on, at Rosendaal, is the nursery of G. Heerma Van Voss, and at Oudenbosch those of Looymans & Sons, Van der Bom, Jos. de Bruyn, and others. These are a few only of those that may be seen from the railroad, and in some instances the train runs through them, there being nursery-stock on either side.

Arriving at Rotterdam there are many features of great interest, including the numerous canals and the fish-market, quite available to the fishing-smacks although situated in the town itself. The principal attraction for the horticulturist, however, lies in the Zoological-Botanical Garden (Diergaarde), outside the Delft Gate on the northern side of the town. It belongs to the Zoological Society, and the area of the Botanic Garden is about 35 acres (14 hectares), containing fifteen glasshouses. The superintendent of the plant department is Mr. Johann F. Wilke, an old Kewite, who has held the position for twenty years.

In respect to out-of-door gardening, few places could be less suitable than this site. It is open to the north, being exposed to the coldest winds, and the atmosphere is generally laden with smoke and fumes from the town. The garden might be much improved if adequate shelter could be provided, but it is regrettable that the railway line bordering on the north prevents any additional planting for this purpose.

When we visited Mr. Wilke in April, many of the flower-beds were filled with Violas, but being

a Dutch garden the beds in summer are always planted in the formal carpet fashion, with similar species of plants to those used in this country for the purpose. Each year there are raised between 40,000 and 50,000 plants for this style of bedding, a detail that in itself must necessitate a large amount of labour and attention. There are fifteen glasshouses, many of them of large size and containing good specimens of interesting plants. The most remarkable, and one that causes most surprise to visitors, is that known as "The Whisky Bottle" house, the glass roof being formed of hollow glass-bricks $3\frac{1}{2}$ inches thick. The invention was from Switzerland, and the house is said to be capable of keeping out as much as 20° of frost without having to use any fire-heat. It is quite a curiosity, but beyond this we suspect the idea has little to recommend it. The interior is heated to stove temperature, and contains heat-loving species of plants, including a collection of Nepenthes.

In the Water-Lily house, where the *Victoria Regia* is cultivated in a large oval tank 50 feet long and 33 feet wide, having no hot-water pipes in the soil, there was a very fine specimen of the interesting Commelinaceous plant, *Cochlostema Jacobianum*, bearing its sweetly-scented, bluish-purple flowers in abundance. *Alpinia nutans* was also conspicuously in flower. A specimen of the large-flowered *Sobralia Cattleia* was remarkable for its great size and healthy appearance. It is in a mammoth pan, and had eighteen or twenty growths 5 feet high. It flowered two years ago. *S. macrantha* was also in excellent condition in a tub that must have measured as much as $3\frac{1}{2}$ feet across. *Asparagus Sprengeri*, suspended in large baskets, was doubly attractive owing to the plants bearing a plentiful crop of its bright red-coloured fruits. A plant of *Casuarina* (the only genus in a Natural Order bearing its name), with its roots in a pot submerged in a tank, is remarkable for being about 20 feet high.

From the Water-Lily house a porch leading to another house filled with good specimen Vandas in variety contains climbing Roses, but the atmosphere of the porch or corridor is too hot for some varieties to succeed well, though others appear to enjoy it. In another house a fine plant of the well-known *Angræcum sesquipedale* was in flower. In this corridor *Columna Schiedeana* was in bloom. It is a Mexican herbaceous climber, and its Gesneraceous flowers are some 2 inches long, marked with yellow and brown—an old plant, but by no means commonly cultivated.

The large winter garden or conservatory, of which a view is afforded by the Supplementary Illustration, contains some fine specimens of greenhouse and half-hardy species, of which mention may be made of *Dicksonia antarctica*, 28 feet high; big specimens of *Cereus*, and of *Agave ferox*, &c. In an adjoining house containing economic plants, one of the best specimens was *Arenga saccharifera*.

In another house there is a collection of Cycads and allied species, amongst which was noticed a big-leaved form of *Encephalartos Lehmanni*. A collection of plants of the fantastic *Strelitzia Reginae* (Bird of Paradise plant), that happened to be blooming, showed how variable is the species, for the flowers of each plant differed from the others a little in size or shade of colour.

The Palm-house has a dome 59 feet high, and is a building of considerable dimensions. Some of the best plants are *Washingtonia robusta*, a very pretty specimen about 7 feet high; *Livistona olivæformis*, and *Kentiopsis macrocarpa* (*Kentia Lindenii*), about 14 feet high.

Some very pretty *Cinerarias* were in flower in a house that was gay with a miscellaneous collection of plants in bloom, the principal feature of which consisted of great banks of *Rhododendron* (*Azalea*) *indicum* profusely flowered. The

Cinerarias were obtained by Mr. Wilke from Messrs. Vilmorin-Adrieux & Co., Paris, and they were remarkable for the unusual saucer-like form of the flowers and their particularly attractive and soft rose colour. It is a decidedly distinct strain, and the plants possess a pleasantly compact yet freely branching habit of growth. The white variety, and some of the tinted ones, Mr. Wilke said, will come true from seeds.

Two other plants in these gardens that must be mentioned are *Pandanus Veitchii* and *Goodyera discolor*—the former because Mr. Wilke has a form of this ornamental stove foliage plant that usually presents eight white young leaves,

THE COUNTY INSTRUCTION GARDENS AT HASBURY, HALESOWEN.

We are indebted to Mr. James Udale, County Council Instructor for Worcestershire, for the following note on these gardens, and for the photograph from which the illustration was prepared:—

"I send for your inspection two photographs of sixteen boys' gardens (County Instruction Gardens) at Hasbury, Halesowen [one of which forms the subject of our illustration, fig. 92. Ed.]. The Worcestershire County Council now provides instruction, seeds, tools, manure, &c.,

and no failures or partial failures anywhere. [The gardens are creditable alike to the pupils and their teacher.]"

IMPROVEMENT IN VEGETABLES.

A MUCH greater interest has been taken in this subject in late years by the leading nurserymen, who have spent much time and money in efforts to improve their stocks, and by private growers and amateurs who have given vegetables a large part of their attention. It is well known that vegetables grown for seed purposes require the greatest care, and unless this is given them the best kinds soon become



FIG. 92.—YOUTHS AT WORK IN THE COUNTY INSTRUCTION GARDENS AT HASBURY, NEAR HALESOWEN.

devoid of colour absolutely. Subsequently they commence to become green at the tips, and the colour then spreads, but by this time more young leaves have developed. It is decidedly more effective as a variegated plant even than the species is generally known to be.

The *Goodyera* has been mentioned because, whilst so many cultivators in England, as elsewhere, find the cultivation of the species so difficult, Mr. Wilke cultivates it quite easily in the ordinary atmosphere of the stove, without confining it in a case. The plants are potted in a rather stiff loam, to which a little peat and Belgian "terre de bruyère" is added.

The Rotterdam Botanic Gardens possess more plant-houses than any other botanic gardens in Holland. P.

free of cost to 275 youths at eighteen different centres in the county. The Hasbury centre has the distinction of obtaining the highest possible number of marks for cleanliness and for order of all the sixteen gardens at that centre at the inspection on July 31 last. I was so pleased that I asked the local teacher (who is seen at the top right-hand corner of the illustration) to have a photograph taken and sent to me. His name is Mr. John Clarke, and he lives at Halesowen. Hasbury and Halesowen are on the borders of the Black Country. The crops from right to left are: Parsley, Shallots, Onions, Leeks, Beetroots, Parsnips, Carrots, Broad Beans, White and Red Cabbages, various winter greens, Potatoes, Peas, Dwarf Beans, Runner Beans, salad plants and Celery. The whole of the crops are excellent,

so much mixed that any good points they may have are lost. I am glad to note that of late years less preference is given to mere size at exhibitions, quality, not quantity, being placed first, and though on some occasions coarse vegetables have been given the highest awards, this is not general. It has been said that large vegetables are necessary for cottagers. This I do not admit, for large roots or coarse vegetables require a longer time in which to grow, there is a much greater demand on the soil, which the sooner becomes exhausted, and in the end the return is smaller.

What an improvement has taken place in the Tomato! A few years ago it was the grower's aim to secure as large fruits as possible; now it is not so: prettily-shaped fruits of medium

size are most favoured. I am surprised that the yellow-fruited varieties have not found more favour for use in salads, as they have thinner skins and a nice appearance in the salad-bowl.

The best Cucumbers now are by no means the largest in size, this being an advance, but even now we do not make the best of this vegetable fruit, for many persons could eat it in a cooked state who otherwise dislike it.

It is in Peas that the greatest advance has been, and growers are much indebted to the famous Reading firm for a considerable portion of the progress; but many others have worked to improve the varieties and make them what they are. When we remember the early cropping Peas that were grown years ago, mostly small white round-seeded varieties, and compare them with those available now, the gain is at once apparent; and the same remark applies to most of the mid-season and late-cropping varieties. Not only is there better quality, but also a decided improvement in habit of growth and in cropping qualities. Peas have certainly made great strides, and by studying the varieties in conjunction with soil and other details, a longer season of supply is possible.

The French and Runner Beans have during the past twenty-five years made remarkable development. It is seen particularly in the climbing French Bean. I have little to chronicle in regard to new and distinct kinds of vegetables, but there is no lack of new varieties of types that already existed, and the popularity of the climbing French Bean since its introduction in 1897 shows that there is a much greater general interest taken in vegetable culture than was the case formerly. Consider the best type of Runner Bean of the present day; it has a long, straight, fleshy, shapely pod, and is much superior to the old Scarlet Runner of thirty or forty years ago. New varieties of the dwarf or Kidney Bean grow with greater vigour and for a longer time, and produce better pods.

I do not think we shall ever be fortunate enough to get a perfectly hardy Broccoli or Cauliflower, still it cannot be denied that the new varieties are of more sturdy growth and appear better able to hold their own in our variable climate. We have now some beautiful varieties of Cabbage that are earlier, of smaller size and better quality than those we formerly possessed. More attention is now paid to seasons. There are three distinct seasons, and it should not be expected that an early spring Cabbage is suitable for consumption in August or later. But even the easily-grown Cabbage is not always cultivated to its best in private gardens, and change of soil is not afforded this crop sufficiently often. There is no question but that the advent of the small early Cabbages of the Ellam type was one of the greatest successes in the last few years. There is need now for further advance, either by rigid selection or by crossing, for all Brassicas are inclined in time to degenerate.

THE POTATO

affords a very wide subject. There has been long and continued progress since Mr. Fenn, the well-known veteran, took the American varieties in hand and crossed them with our own, thus producing a new race. New varieties which crop earlier than the Ashleafs, and yield more heavily have been introduced by various firms both North and South. Similar progress has been made with late varieties. The tubers are now of excellent shape and colour, and the varieties yield heavy crops. In the raising of new kinds in the future, cross-breeders should make flavour a cardinal point. The Royal Horticultural Society in their awards for new varieties put flavour in the first place.

The coming Conference on Vegetables at Chiswick might with advantage have been given a wider scope, taking into account the progress

made of late years. The meeting will afford greater interest owing to the prizes given for exhibits of vegetables. All interested in vegetable culture will be grateful that vegetables have been recognised, and that more interest is taken in what forms one of our most valuable foods. In my next communication I hope to note the improvements in the various types, and describe the importance of cultivating greater variety, so that an increased interest may be taken in the kitchen garden, and that it may be more profitable. *G. Wythes, V.M.H.*

The Week's Work.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Cool Houses.—The cool nights and moist air of early Autumn afford conditions peculiarly grateful to the inmates of this house, and do away with the need for much damping down. Ventilation should be free at all times, merely avoiding draughts on cold days and nights. If it be feared that the temperature will fall too low before sunrise, artificial heat should be applied, as it is not good for the plants to allow the warmth to decline below 50° by that hour; the ventilators being left slightly open at night. Slugs are sure to devour the tender roots and flower-spikes, and must be sought for at night and killed; and baits of Lettuce leaves, slices of Carrot, and saucers filled with bran should be set about the stages. The flower-spikes should be protected with bits of cotton-wool put around their base.

Pleiones.—These having finished their growth for the season and the leaves fast decaying, scarcely any water will be needed, although the potting material should not be allowed to become dust-dry before the flowering season is past, and on the other hand it should not be kept very moist. The flowers of these plants are short-lived. *P. humilis* is only about halfway through its season's growth, therefore the plant should be afforded a fair supply of water at the roots for some time yet. The underside of the leaves, which sometimes harbours red-spider, should be often syringed so as to dislodge this pest.

Heating apparatus of all sorts should be put into good order, flues cleaned out, fire-bars renewed, leaky joints caulked, and valves and taps made easily movable. [Where the old-fashioned smoke flues are still in use, which is but seldom nowadays, these will need to be overhauled, cleansed, and damaged parts made good. *Ed.*]

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Cabbages.—So as to ensure a succession of good Cabbages, several plantations should be made at this season. The earlier-set-out plants should be earthed-up with the hoe as far as the lowermost leaves, and a sharp look-out kept for the brown grub, which eats through the stems just under the surface; these are usually to be found by scratching away the soil with the fingers. Make good all losses of plants as soon as possible.

Celery.—Continue to earth-up the main crop plants, making sure before so doing that the soil at the roots is in a thoroughly moist condition; for if Celery be allowed to suffer from lack of water, the produce will be tough. In moulding-up, make the soil friable, and place some of it firmly round the plants when quite dry, then follow with coarser soil. Extra pains should be taken with the final earthing to finish off the tops of the ridges neatly and smoothly.

Tomatos.—Tomato plants growing out-of-doors should be denuded of most of their leaves, so as to allow of the sun's rays reaching the fruits, and as soon as any of the latter show colour remove them to a glasshouse to ripen. If frosts set in pull up the plants, remove the foliage, and hang up the plants head downwards in a warm, dry glasshouse.

The Frame Ground.—In order to furnish a regular supply of vegetables during the winter and early spring, rough skeleton frames, made either with boards or thick turves for the walls

and set to face the south, should be built betimes. There is no better means of protection than such frames if cold brick-pits be not available in sufficient number. There are canvas covers now procurable from the water-proofers which are none the worse for being rolled up when wet, and that will not rot if left rolled up for several days. Vegetables are unharmed in these improvised frames, if the frost be kept out and moisture be thrown off. Spent hot-beds may be made useful for protecting many sorts of vegetables, the soil being broken up finely and additional soil put into the frames if the plants would not be near enough to the glass. Such frames answer for small Cauliflowers, Lettuces, Endive, &c. Such things should be kept close and shaded for a few days after planting. Keep the leaves dry, therefore do not draw off the lights in rainy weather, but afford air all the same; at other times only put the lights on the frames at night. If sparrows or slugs injure the plants, apply fresh soot to the leaves.

Parsley.—If there is a fear of shortness of supply later on in the year, small plants should be lifted with the tap root intact and planted in frames in rows, 9 inches apart, and 6 inches from plant to plant in the rows, applying a good dressing of soot when the planting is finished. Thin the plants of late sowings, and stir the soil frequently between the plants.

FRUITS UNDER GLASS.

By T. H. C.

Figs.—Where the earliest crop is taken from trees grown in pots, these, as soon as the leaves have performed their functions, may be repotted if necessary, otherwise top-dressing will suffice, the actual starting taking place in the month of November. Fig-trees when repotted should be turned out of their pots, and the exhausted soil picked out from among the roots with a sharp-pointed stick; and if a larger pot seems to be required, choose one a size larger than that it has occupied, otherwise return it to the old pot after it has been well cleansed, shortening back the very strong roots. Afford ample drainage. In most cases, a rich top-dressing, applied after much of the old soil has been removed from among the roots, will be sufficient for trees that have not been in the same pots for more than a year. A suitable compost for the Fig consists of good turfy loam, some mortar-rubble (an eighth), and finely-broken charcoal, with one-sixteenth of bone-meal. The soil should be made firm, and the pot so far filled as will afford ample space for holding water. Place the trees in a sunny position out-of-doors, guarding against sharp frosts and the soil becoming saturated with rain; on the other hand do not allow it to become very dry.

Succession Houses.—As soon as the fruit has been cleared from later trees, remove all the shoots that are not required for next year's fruiting, and thus contribute to the maturation of the shoots. Throw open the ventilators to the fullest extent, and except in cold, moist weather shut off artificial heat and maintain the air in a dry state, but keeping the borders fairly moist; and when applying water afford occasionally liquid-manure abundantly to trees which have been heavily cropped.

Pine Stove.—Afford winter fruiters which may be over the flowering-stage some manure-water. On fine days syringe the plants lightly when closing the house, and maintain the air in a moist state by damping-down, &c. The bottom heat need not exceed 85° nor the night temperature 65° to 70°, and by day 75° to 80°. Give air on every favourable opportunity by day, and before the temperature of the house reaches 75°. The Pine-stove lately occupied by fruiting Queens, the fruits of which are now consumed, should be cleansed, both inside and outside, woodwork painted if necessary, and the walls lime-washed. If bottom-heat is supplied by tanners'-bark, some fresh bark in the desired proportion should be incorporated with the old, the bed being made 15 to 18 inches in depth. This bed may again be filled with fruiting Queens, which may be encouraged to make growth for a month, and then, the pots being filled with roots, they may be rested for a time previous to starting them to fruit in the month of January. The

bottom-heat should range from 80° to 85°, the night temperature not exceed 65° and that by day 75° to 80°, excepting for a short period after closing the house about 2.30 or 3 o'clock, when it may be allowed to rise to 90° by sun-heat. Keep the plants sturdy by ranging them within a short distance of the roof, and by applying air freely in favourable weather. Afford all growing plants the same kind of treatment, and avoid crowding them together. Examine every plant at the least once a week, and afford tepid water to such as need moisture at the root.

Cucumbers.—Assist plants in bearing by top-dressings of loam and leaf-mould or spent Mushroom-bed manure in equal proportions. Afford these plants weak liquid-manure or occasionally some safe kind of artificial fertiliser, and afterwards some tepid water to carry it down to the roots. Aged plants, if in a healthy state, will produce Cucumbers early in the winter if most of the old bine be removed and the young growth is tied in thinly. Prick up and remove the surface soil of the beds and borders, replacing it with the rich compost mentioned above, adding a sprinkling of Velthea or Thomson's Vine-manure. Syringe the plants if the afternoon has been fine, and allow the warmth to run up to 90° or 95°, but let it to fall to 65° or 70° at night. Frequently damp paths, walls, and other surfaces.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Roses.—Let all gross-growing and flowerless shoots be shortened to half their length, and weak ones removed entirely, leaving only those intact which are strong enough to afford good flowering growths next year. Cuttings may now be taken of all sorts of hardy Roses for striking out-of-doors. The shoots employed as cuttings should be of moderate strength of the present season's growth, taken off when possible with a heel of older wood attached, and be made about 10 inches in length, 6 inches of which should be buried in the soil. Unless the soil of the garden is naturally of a sandy nature it is advisable to incorporate a considerable quantity of sand or road-grit with the staple, or sprinkle the bottom of each little trench. Be sure that each cutting rests firmly on the sand, and that the soil is made firm around it. When finished off, the cutting-bed should be afforded water copiously.

Cuttings of various Shrubs.—At the present date cuttings of Veronicas, Euonymus, Escallonia, Aucubas, Bupleurum, double-flowered Gorse, Gaultheria, &c., may be inserted in very sandy soil, surfaced with silver-sand, under hand-glasses. Where the first-named three shrubs are grown out-of-doors some cuttings should be struck every year, the plants being often killed by severe frosts, and it is a curious fact that cuttings will escape while established plants get killed.

Calceolarias.—In propagating the bedding varieties of Calceolaria, I prefer to wait till the end of the present month or early in the next, at which date the plants have almost ceased to grow. A cold frame placed on a hard bottom of coal-ashes, upon which a 4-inch layer of sandy-loam is laid, forms an excellent place for striking cuttings of the Golden Gem type; but *C. amplexicaulis*, being rather more tender, should be struck in portable boxes, so that they may be removed to cold frost-proof houses or pits later in the year. Calceolaria cuttings should be made 3 inches in length, and be inserted in holes made with a small dibber, then be afforded water heavily, and shaded from bright sunshine for a few weeks.

Brugmansias, &c.—Cuttings of Brugmansias, Plumbago capensis, Swainsonias, and Abutilons may be taken, struck and in pots filled with sandy soil and placed in a hot-bed. They should be kept in a growing state throughout the winter.

Lobelia erinus.—Plants that were cut back as advised some weeks ago may now be placed in 4 or 5-inch pots, accommodated in a cold frame, and be transferred at the end of October to a greenhouse-shelf. Such plants will afford numerous cuttings in the spring.

Seeds.—Where any specially good type of annual or biennial has been grown this season,

the plants should be examined for ripe seeds, which latter should be dried, cleaned and stored. The seeds of some of the better species of hardy herbaceous perennials are well worth saving, healthy stock being readily raised from home-grown seeds.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Out-of-doors Vines.—The season has not been favourable for these Vines, and mildew is very prevalent on the bunches of Royal Muscadine now ripening. The bunches should be protected from birds and wasps by placing them in thin muslin bags, taking care however that the berries are quite dry when enclosed. The Grape-Vine, being sometimes planted against buildings having projecting eaves, suffers from lack of water at the root, and where this is suspected, water and occasionally weak manure-water should be afforded. Let all lateral shoots be nipped off, and the bunches kept away from the surface of the wall with short cleft sticks.

The Fig.—The fruits of the varieties Brown Turkey, Pingo de Mel, and Brunswick which are ripening should be protected from flies, birds, and wasps by fine-meshed netting. The heavy rainfall has set up a very vigorous growth in the trees, which, owing to the lack of sun, does not mature, besides causing the fruits to split at the eye and to drop off. The trees should be examined at short intervals and the ripe fruits gathered; they will keep in good condition but for a short space of time.

Hints on Work in General.—If it is the intention of the gardener to remove any aged or worn-out wall trees, the operation may be undertaken forthwith. In preparing a station for a new tree in the same place that the old one grew, let the top spit be removed to one side, for mixing with fresh loam, and the next spit should be thrown out for at the least a width of 3 feet, measured from the wall-foot, and in length as far as it is calculated the roots of the new tree will reach, and a bit further. Having done this, add enough sound turfy loam to the top spit as will make up for that which has been removed of the second spit, so as to bring up the soil to the proper level, mixing these by turning them twice; and in the case of stone fruits add liberally of mortar-rubble if the staple be of a heavy nature, and afford a layer 1 foot thick of brickbats, &c., at the bottom as drainage, covering this with whole turves, grassy side downwards. Before filling in there will be no need to trample the soil, there being ample time for it to settle before the trees are planted. These remarks apply likewise to pyramidal and bush trees in the open fruit quarters.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bickton, Budleigh Salterton, Devonshire.

Caladiums.—Most of these plants will now be past their best, and may be placed at the cooler end of the plant stove, and be afforded less water till the foliage is matured, when very much less will suffice. I am not an advocate of affording no water to the soil during winter, believing that more tubers are lost by this kind of treatment than when the soil is kept moderately moist during the period of rest.

Coleus.—Let 3 or 4-inch pots be filled with sandy soil, into which insert half-a-dozen cuttings per pot of the varieties intended to be kept through the winter, and place the pots in a shady corner of the propagating-pit, such a position being least likely to cause damping-off than a close propagating-case. When rooted, stand the pots fairly close to the glass, and afford water with much moderation, otherwise there will be many losses from damping off during the winter months. Keep the plants in a temperature of 55° to 60°, rooting the tops again early in the month of December if the plants are inclined to get leggy.

Bouvardias.—These should be removed to the greenhouse forthwith, or the cold weather will have a disastrous effect on them. Afford them a light airy position, and for a few weeks give light syringings in the morning and early in the afternoon on warm bright days. In affording manure of any kind let it be weak, the roots of

Bouvardias being very fine and soon injured by strong manures. About the third week in October remove the plants to a well-ventilated house or pit where a small amount of fireheat may be applied, and let the night temperature range from 55° to 60°, with the usual advance by sunheat. I find the ordinary greenhouse a trifle too cold for Bouvardias, their flowers not expanding satisfactorily, especially those of the double-flowered varieties, Alfred Neuner and President Garfield; the plants should still be lightly dewed over once or twice daily in fine weather.

Pelargoniums.—The zonal section of these plants standing in pots out-of-doors should be removed forthwith to frames, brick pits, or airy shelves in the greenhouse, the last being the best places for the plants till they come into flower. The nearer the plants are kept to the glass the greater the quantity of flowers. Clean off decaying foliage, and ascertain if the drainage is good, and the hole clear of obstruction, and still apply manure-water once or twice weekly till the flowers begin to open.

Richardias that were planted out may soon be dug up and repotted without doing more root-mutilation than is really necessary. Pots of 7 to 9 inches in diameter form suitable sizes for single crowns, or three may be put into 10-inch pots, using a similar kind of soil to that advised for these plants in the Calendar for August 15. After potting keep them close for a few days, frequently syringing the leaves, and not allowing the plants to get dry at the root; but if they are afforded water as soon as potted, the syringe will keep them sufficiently moist for several days. Shade them lightly should the leaves droop.

Routine Work.—In the colder counties it will be necessary to house Salvias, Coronillas, Genistas, Solanums, Richardias, Azaleas, Camellias, Ericas, and New Holland and Cape plants that may be standing outside. In Devon these plants can remain outside for a month later, though the temperature here during the past week or longer has fallen at night lower than is usually the case at this date. Keep the houses well ventilated and the plants syringed overhead occasionally for the first week or ten days, and let all pots be cleansed and the soil freed from weeds, moss, &c.

THE APIARY.

By EXPERT.

Work in the Apiary.—All sections should be scraped, cleansed, and placed away where bees and flies cannot reach them, unless they are sold and despatched to the purchasers. The sides of each section should be wiped with a sponge after scraping, and in handling them afterwards take hold of them by the corners and not by the flat part or there will be finger-marks visible, which might induce some shopkeepers to refuse to buy them. It is better to sell the sections forthwith if fairly good prices can be obtained, rather than keep them till the price rises. The sections should be carefully packed, always keeping them the same way up as that in which they were taken from the hive. A good method of packing sections is to use a travelling crate with springs on the bottom, but in sending large quantities a good and safe way is to get a strong cube-sugar box and have the bottom well padded with soft hay, allowing the hay to come up the box all round about 6 inches, covering the hay with strong sacking. The interior should consist of three crates made like section racks and each large enough to hold two dozen sections. Well pack up the back tier of each crate with a piece of thin board and stuff some paper behind it to make all tight, and place a piece or two under them so as to form a sort of tray to prevent the honey from running. The lid should be screwed down and not nailed, as hammering jars the combs. A large label should be put on the top, "Honey with care. This side up." Run-honey should be broken up directly after the bees in the skeps have been driven out or destroyed, as it will break up much better while warm. An empty skep should always be placed on the stand when the full one has been removed. Leaky roofs should have attention as the continuous rain will have found its way into a good many hives. Robbing as soon as noticed should be immediately stopped. Uniting bees should be carried out forthwith.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, SEPT. 29—Royal Horticultural Society's Fruit and Vegetable Show and Conference in the Chiswick Gardens (three days). Gardeners' Dinner at Holborn Restaurant, 7 P.M.

SALES FOR THE WEEK.

MONDAY to FRIDAY NEXT—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30 o'clock.

WEDNESDAY, SEPT. 30—Palms, Azaleas, &c., at 67 and 68, Cheapside, by Protheroe & Morris, at 4 o'clock.

FRIDAY, OCT. 2—Orchids in variety, at 67 and 68, Cheapside, by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—55° 1'.

ACTUAL TEMPERATURES:—

LONDON.—Sept. 23 (6 P.M.): Max. 69°; Min. 52°.

Sept. 24, At noon, overcast, little wind: 66°.

PROVINCES.—Sept. 23 (6 P.M.): Max. 65°, Isle of Man; Min. 53°, Aberdeen.

It may surprise some who have only a superficial knowledge of West Indies. West Indian products to know that the culture of cotton in those Islands has been discontinued. One of the species of *Gossypium* (*G. barbadense*) indeed derives its name from Barbados. It is this species or one of its many forms which yields the long stapled cotton known as "Sea Island," also the Bourbon, Barbados, New Orleans varieties. It is cultivated in the Southern States of America, and in various parts of tropical Africa. The Peruvian cotton (*G. peruvianum*) is probably only a form of this with coherent seeds.

For reasons to which it is not necessary to refer in this place, the cotton industry of the West Indies has been discontinued, but thanks to the foresight and energy of Sir DANIEL MORRIS, there seems good reason to hope that the culture of the plant may be profitably revived. From a statement in the *Barbados Agricultural Reporter*, we learn that—

"A sample of cotton from Barbados recently received honourable mention in England, and was priced at the highest figure. There is no doubt whatever that this island, once the home of cotton, is as capable as ever of furnishing its quota of first-quality staple; indeed, it may be said that the soil, under the perfect system of tillage, is hungry for a crop essentially different from the perpetual roots and grasses which for so many years it has been forced periodically to produce.

"Mr. SEALY has long been an active worker in the field of cotton re-introduction as an auxiliary crop, and has well earned the distinction of having been one of its most earnest pioneers. It is certainly very gratifying to find such perfect

indication that the island, once famed for this valuable product, is still capable of growing it in perfection, at a time, too, when the nearly-crushed-out sugar industry so sorely needs a reliable auxiliary.

"It is perfectly true" (says the journal from which we quote) "that with suitable cultivation and judicious treatment, the cotton industry is eminently calculated at the present time to relieve the depression which has for so long weighed down this practically-ruined island. There is some hope that cotton will restore at least some margin of long unaccustomed profit, which may perchance lead up to a renewed agricultural prosperity."

On the occasion of the opening by Lady MORRIS of a new cotton factory, the Chairman of the Cotton and Onion Committee, whose efforts are directed towards encouraging the cultivation of Cotton and Onions in Barbados, acting in co-operation with the Imperial Department of Agriculture, spoke as follows:—

"About two years ago, owing to various reasons, the prices of cotton commenced to rise in the English market, and it occurred to Sir DANIEL MORRIS that it would be a good thing to start Cotton-growing in certain West India islands where it could be grown to advantage. He, as head of the Imperial Department of Agriculture, advocated the planting of Cotton in this island amongst other places. Some time last year prices again rose, owing to the supply being smaller than usual. This led to the organisation of the British Cotton-growers' Association, and to the starting of a vigorous campaign for the promotion of Cotton-cultivation on suitable areas within the British Empire. Sir DANIEL MORRIS and his Department, finding encouragement in this movement, strongly advocated the cultivation of Cotton in this island as supplementary to the growing of Sugar-cane. A few gentlemen planted small areas, and got good results; and the Department of Agriculture furnished a supply of seed to persons willing to grow it. Meanwhile Sir DANIEL MORRIS communicated with the Cotton-growers' Association, and secured the gift of a gin and baling-press for the use of the island. He also approached the Agricultural Society, and asked its co-operation with his Department in encouraging and directing the efforts that were being made to establish Cotton-growing in the island.

"The Society, of course, readily consented to co-operate with the Department of Agriculture. The next step was to approach the Legislature and ask for a grant of £250 to purchase the machinery necessary for working the gin. A further application was made to the Governor-in-Executive Committee for the use of a site on which to erect the necessary machinery, and this site was given. All these applications were readily granted. I have to add that Sir DANIEL MORRIS has secured for us two more gins, which will be erected shortly. It is calculated that an area of about one thousand acres will be brought under Cotton cultivation, which will keep three gins employed. Our sincere thanks are due to Sir DANIEL MORRIS for his help in enabling us to open this factory. This is the first Cotton factory erected in the West Indies. It is to be hoped that the factory will get a sufficient supply of Cotton to keep it going, and that the Cotton industry will prove a substantial help to the Sugar industry. Lady MORRIS has kindly consented to come down here and open the factory, I therefore have great pleasure in asking her to put the first Cotton through the gin."

"Lady MORRIS thereupon stepped forward, the engine was put to work, the gin began to work, the first bale of Cotton was supplied by her hands as she said: 'I hereby declare this factory open.'"

Ten or twelve thousand acres are likely to be devoted at once to Cotton cultivation, calculated to produce three hundred thousand pounds of clean Cotton. The Cotton-seed oil is also a valuable asset, and the seeds themselves are available for the feeding of animals.

ROYAL HORTICULTURAL SOCIETY.—FRUIT AND VEGETABLE SHOW AT CHISWICK.—The Royal Horticultural Society will hold an exhibition of British-grown fruits and Vegetables in their gardens at Chiswick on September 29, 30 and October 1. A Conference on Vegetables will be held on Tuesday, September 29, at 2.30 P.M., Mr. GEORGE BUNYARD, V.M.H., in the chair. The following gentlemen have been asked to read papers:—1. "On Cooking Vegetables," Dr. BONAVIA and Mr. JAMES HUDSON, V.M.H. 2. "On Vegetables all the year round for a Private Family," Mr. W. H. DIVERS. 3. "On Vegetables for Exhibition," Mr. EDWIN BECKETT. 4. "On Vegetables for Market," Mr. W. POUFART. The exhibition will open at 12 (noon) on September 29, and at 10 A.M. on the two following days, closing at 6 P.M. Fellows of the Society on showing their tickets at the entrance will be admitted free, and the public on payment of 2s. 6d. on the first day and 1s. on the second and third days.

—At a General Meeting of the Royal Horticultural Society held on Tuesday, September 15, twenty-four new Fellows were elected, making a total of 1,141 elected since the beginning of the present year.

THE GARDENERS' RECEPTION AND DINNER.

—We have received the following communication from Mr. ALEX. DEAN, Secretary to the Committee:—"The Committee have been informed through the Rev. W. WILKS that eight members of the Council of the Royal Horticultural Society, including the President, Sir TREVOR LAWRENCE, Bt., V.M.H., and Mr. GURNEY FOWLER, the Treasurer, will be present, also his worthy self, as he has been invited to respond with other secretaries on behalf of the Royal Horticultural Society. Tickets are going so rapidly that the 500 printed bids fair to be utilised. Late applicants may be left out in the cold. All unsold tickets, if any, must be immediately returned, and all others paid for prior to the 29th. Ticket-holders from the country should specially note that, if coming to Holborn from Chiswick by train and the tube railway, if they alight at the British Museum station, they will find Newton Street exactly opposite, down which, a little way on the left-hand, is the entrance to the reception-hall. Cloak-rooms are close at hand. A large plan of the tables will be hung in the reception-room, on which will be found the names and places of all the speakers and vice-chairmen, also those who have specially asked for seats in a party. These parties should not exceed three or four, as they are then more easily accommodated. It is hoped that the published programme, which includes eight toasts, some twenty-four speeches, with ten musical items, may be got through by 10 P.M. To bring about that desideratum it is specially desired that all speeches be very brief, as long ones would dislocate the whole of the arrangements. After the full programme is got through, musical items may follow if desired. The singing of "Auld Lang Syne" by all the company will close the set programme. It is earnestly desired that every name-card will be handed in at the door of the reception-room."

COMPLIMENTARY DINNER TO MR. W. B. LATHAM.

—At a general meeting of subscribers held at the Athletic Institute, John Bright Street, Birmingham, on Monday evening, September 14, after much consideration it was decided that it was advisable to postpone the dinner from Sep-

tember 24 (as originally fixed) to October 22, in order that his many friends at a distance may have an opportunity of showing their appreciation of his many kind actions and lifelong service to horticulture. Mr. OWEN THOMAS (late Head Gardener to His Majesty the KING), 25, Waldeck Road, West Ealing, W., who has kindly promised to preside at the dinner and present the testimonial, will be glad to receive subscriptions; or they may be sent direct to the Chairman, Treasurer, or Secretary. The dinner tickets issued for September 24 will be available for October 22.

FLOWERS IN SEASON.—MESSRS. GAUNTLETT & Co., of the Japanese Nurseries, Redruth, send for our inspection two Veronics, viz., *La Fleur de Roses*, white; *Coquette*, pale lilac, with flower-spikes 5 inches long; and a flower of *Mutisia decurrens*, a Composite with deep orange-coloured narrow rays and yellow anthers, the flower measuring 4 inches in diameter. The plant thrives best when afforded the shelter of a wall. It is figured in the *Botanical Magazine*, t. 5273.

— From Mr. J. DERBYSHIRE, Ashley Road Nursery, Hale, we have received three seedling varieties of Sweet Peas. Dorothy Derbyshire is rich rose-pink colour, with whitish keel; the flowers are large and the segments broad, but the standard is not erect. It is very effective, and the best of the three. Pink Pearl comes next in merit, and its colour is described by the name. Celine is also pink, but of lighter shade, and has whitish wings, which are rather constricted. It may be that fresh flowers would not appear so "hooded" as these specimens that had travelled by post.

— Mr. A. PERRY, of the Hardy Plant Farm, Winchmore Hill, sends us a few flowers of the new *Geum Heldreichii* *superba*, saying that it commenced to flower in the first week in May, and will continue to bloom until frosts occur. The habit of growth is neat, and the flower-stems are thrown up well above the foliage. They are bright orange-red in colour, and most effective. Also perennial Aster "*Perry's White*," a fine white flower with pretty loose petals. Perennial Aster "*Elsie Perry*" is an excellent pink variety. It is a seedling raised at Winchmore Hill some three or four years ago, and it received an Award of Merit from the Royal Horticultural Society last year. The flower is a clear rosy-pink.

TRAFALGAR DAY.—The Navy League have accepted the design of Mr. G. W. BELLGROVE, F.R.H.S., outdoor floral manager to the Junior Army and Navy Stores, for the decoration of the Nelson column, on October 21 next. The scheme includes the usual Laurel festoons and clusters of Palm fronds, and other foliage on the four corners, and growing Palms and foliage plants on the base.

THE MONGOOSE, which was introduced into Barbados and other West Indian islands to clear the Sugar-cane plantations from rats, has multiplied to such an extent that the inhabitants are now petitioning the Government to take steps to exterminate the animal, which not only devours the rats, but now destroys birds, snakes, toads, and other insectivorous creatures, to the great loss of the planters, but to the great benefit of the "moth-borers" and other destructive insects.

FROST IN SCOTLAND.—Severe frosts, writes an Aberdeen correspondent, have been experienced in the north during the week ending 19th inst. Twelve degrees of frost were recorded in the gardens at Balmoral Castle on Monday, and about a similar figure was registered on Tuesday. For the first time during the present autumn severe frosts were experienced in the Badenoch and other upper Speyside districts this week. On Tuesday, 15th inst., the ground was white as with snow, and still waters were sheeted with ice—in some instances nearly a quarter of

an inch thick. The continued severe weather is causing great loss to florists and farmers. The latter, indeed, are to be greatly commiserated, seeing that in the high-lying districts there is yet scarcely a tinge of autumn visible on the cereal crops, and in the present sodden and immature condition of the grains they are bound to suffer seriously. We experienced a similar severe frost at the corresponding period last year, when very great damage was done. The Potato crops in these districts are blackened in all directions, and after the check they sustained at the outset by the severe visitation of June 19, the crop is practically speaking ruined.

WHITE VARIETY OF TOAD-FLAX (LINARIA CYMBALARIA).—A correspondent residing at Aylesford asks if we have ever observed a "white form" of the above-named plant. We surmise his meaning to be white-flowered. We have never observed any such. Will some of our correspondents kindly answer this question?

VEGETABLE PRODUCTS OF THE WEST INDIES.—Our contemporary *Nature* remarks, in its issue for Thursday, September 17, that it will not be owing to want of help from the Imperial Department of Agriculture if West Indian planters fail to get profitable returns from their land. In the last number of the *West Indian Bulletin* the value of Ground Nuts (*Arachis hypogaea*), Eucalyptus trees, and the Bay tree, is brought to notice. The Ground Nut is a source of profit, since it furnishes oils, of which the best grade is nearly equal to olive-oil, and it offers another source of profit since it may be manufactured into oil-cake, for which there is evident demand, as at the present time large quantities are imported. For the manufacture of bay-oil and bay-rum the tree *Pimenta acris* has a considerable value; it is indigenous to many of the islands, but must be distinguished from the tree known as "*bois d'Inde Citron*" in Dominica, the product from which is inferior.

THE PARKS AND GARDENS OF THE METROPOLIS.—There has been issued recently by the London County Council a volume of 800 pages, entitled *London Statistics, 1902-3*, from which we learn that the Council keeps open 91 public parks and open-spaces, with a total acreage of 3,832, and provides many games and pastimes. The Royal parks and open spaces maintained by the Government, 12 in number, have a total acreage of 1,619 acres; and the City Corporation maintains Epping Forest, an area of over 5,000 acres, and some other pleasantries in the district, together totalling 6,489 acres.

EDMONTON AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—It is proposed to form a Gardeners' Mutual Improvement Society, and a meeting for this purpose will be held on Monday, September 28, in the garden library, Pymmes Park, Edmonton, at 8 p.m. The gardeners of Edmonton and the surrounding district are invited to attend this preliminary meeting, with a view of arranging the details. The Middlesex Education Committee have kindly placed the garden library at the disposal of the proposed Society; and the valuable collection of gardening and botanical books may also be utilised for purposes of reference. Meetings will be held once a week, at which papers dealing with some branch of gardening will be read and discussed. Gardeners in the neighbourhood who are willing to join the Society or to read papers, are invited to communicate with Mr. J. WEATHERS, Pymmes Park, Edmonton.

PROCEEDINGS OF THE FIRST ANNUAL MEETING OF THE CHRYSANTHEMUM SOCIETY OF AMERICA. (A. T. De la Mare Printing and Publishing Co., Ltd., New York.)—We have just received this brochure of 74 pages, which contains a record of last year's Convention at Chicago held

by the Chrysanthemum Society of America. If we are not mistaken it is only the second printed contribution to the literature of the Chrysanthemum that the Society has made since its formation in 1889, the first being a catalogue issued so far back as 1892. Now that the French N.C.S. are preparing a catalogue of all varieties grown in France at the present time, and that our own N.C.S. have in the press a supplement to their official catalogue that will be ready in a few weeks, it is opportune for the American society to repeat the experiment of issuing theirs in a revised and enlarged form. The little volume we now refer to more especially contains a frontispiece portrait of the president, Mr. Arthur Herrington, followed by his address at the opening of the Convention, and the treasurer's report. The rules and constitution of the Society are likewise given. The other literary matter consists of the text of the papers read and others that were presented to the Convention. The second show and convention will be held in New York next November.

ALGERIAN VEGETABLES.—Mr. SCRATCHLEY, British Vice-Consul at Philippeville, Algeria, writes to the Foreign Office: "It is a pity that it is not possible, owing to the absence of direct communication, to get into touch with the London market for such vegetables as early Potatoes, Green Peas, Globe Artichokes, and a vegetable called Chayottes (*Sechium edule*). This vegetable is very much like a young Pumpkin, but firmer, and there is only one big seed inside. It ought to be able to stand a long voyage." [It is not unknown in Covent Garden Market. Ed.]

"CATALOGUE OF BOOKS ON THE USEFUL ARTS."—This publication is issued from the Public Library, Newcastle-upon-Tyne, and is drawn up by the chief librarian, Mr. ANDERTON. It is designed to supplement the general catalogue by bringing before specialists a detailed and classified list of the books they are most likely to require. The system of classification that has been employed in the *Catalogue* is Dewey's Decimal Classification, adopted in many other libraries, and therefore readily comprehensible to many of the casual visitors. At first sight the system appears complicated, but a little study clears up the difficulties, and there is a general index to assist the unaccustomed. We need not comment upon the general excellence of the library, which is rich in treasures well arranged for handy reference.

GOLD COAST BOTANICAL DEPARTMENT.—We have before us the report of the Gold Coast Botanical Department for 1902. Mr. A. EVANS, Assistant Curator, has published (in the absence of Mr. W. H. JOHNSON, Curator) a bulletin that is, on the whole, very favourable. Successful experiments have been made in acclimatising various economic plants, the plantations generally appear to be in good order, and the official business increasing, so that in a short time we may look for more important results.

"HORTICULTURAL DIRECTORY."—The Editor of this publication desires to remind nurserymen, seedsmen, and more particularly head gardeners, that additions and corrections for the 1904 edition must be received at the office, 12, Mitre Court Chambers, Fleet Street, London, not later than October 5 to ensure insertion.

NATIONAL CHRYSANTHEMUM SOCIETY.—The first meeting of the Floral Committee for the present year took place at the Essex Hall, Strand, on the 21st inst., in a spacious room having an excellent roof-light, and enabling the flowers to be seen to the best advantage. At the commencement of the proceedings, Mr. D. B. CRANES was re-elected Chairman of the Committee for the present year.

Two large-flowered Japanese Chrysanthemums were submitted, one J. A. Humphrey, pale yellow, the younger blooms tinted with pinkish-salmon, which is not so pronounced with age; it has long, broad, drooping florets, curling at the points (Commended). From Mr. C. GRIFFIN, Walton Leigh Gardens, Addlestone, Surrey. Also from the same raiser, Holme Sumner, an incurved Japanese, bright deep yellow, with broad florets curling inwards; fine in colour. The next meeting of the Committee will be at the Crystal Palace on October 6.

MR. THOMAS HUMPHREYS.—The presentation by the Floral and Fruit Committees of the Royal Horticultural Society of an illuminated address, &c., to Mr. THOMAS HUMPHREYS will be made at the conclusion of the luncheon at the Chiswick Gardens on Tuesday next, September 29. As illustrating the good wishes generally entertained for Mr. HUMPHREYS by friends who have been brought into business contact with him in London, it may be mentioned that the Chiswick Gardens staff have already presented their retiring Assistant Superintendent with a gold Albert as a mark of their esteem. Members of the Press also are taking means by which to acknowledge the unvarying courtesy the Press has received from Mr. HUMPHREYS at all the shows and meetings of the Society, and at Chiswick. Mr. HUMPHREYS will remove to Birmingham Botanic Gardens on October 1.

PUBLICATIONS RECEIVED.—*The Book of Herbs*, by Lady Rosalind Northcote. Published by John Lane, The Bodley Head, London and New York.—*Vegetables for Profit*: No. 1 (Green Crops); No. 2 (Root Crops); No. 3 (Asparagus, Peas, Beans, Rhubarb, Seakale, Marrows, &c.); No. 4 (Mushrooms, Cucumbers, Salads, Tomatoes, &c.). Edited by T. W. Sanders, F.L.S., F.R.H.S. W. H., and L. Collingridge, 148, 149, Aldersgate Street, E.C.—*Journal of the Horticultural Society of Japan*, for May 19, 1903.—*The Botanical Magazine (of Japan)*, July, 1903, published at Tokyo.—*Bulletin No. 6*, Department of Agriculture, Victoria: *Cooperative Forage Experiments in Southern Victoria*, and *Two Years' Field Work of the Chemical Branch*. Published by Allan Morrison, 458A, Chancery Lane, Melbourne.—*Proceedings of the Academy of Natural Sciences of Philadelphia*, vol. lv., part 1, January, February, March, 1903.—*Woburn Experimental Fruit Farm*. Third Report by the Duke of Bedford, K.G., and Spencer U. Pickering, F.R.S.—Leaflet No. 93, of the Board of Agriculture—*Farmyard Manure*.

BRITISH ASSOCIATION.

On the occasion of the meeting of the Botanical Section of the Association on September 10, various papers on botany were given. The first one read concerned the Ancient Floras, and was delivered by Mr. A. C. Seward, F.R.S., Lecturer on Botany in the University of Cambridge:—

SECTION K.—BOTANY.

He chose for his subject the geographical distribution of the floras of the past, a subject which, he admitted, was too extensive to be adequately presented in a single address. He, however, made a great effort to deal with it as it deserved, and in the course of an elaborate and highly technical paper of great length he said that—

"One difficulty that met them at the outset was that of synonymy. 'The Naturalist,' as Sir Joseph Hooker wrote in his *Introductory Essay to the Flora of New Zealand*, 'has to seek truth amid errors of observation and judgment and the resulting chaos of synonymy which has been accumulated by thoughtless aspirants to the questionable honour of being the first to name a species.' Endless confusion was caused by the use of different generic and specific names for plants that were in all probability identical, or at least very closely allied. Worthless fossils were frequently designated by a generic and specific title; an author lightly selected a new name for a miserable fragment of a fossil Fern-frond without pausing to consider whether his record was worthy of acceptance at the hands of the botanical palaeographer. In endeavouring to take a comprehensive survey of the records of plant life, they should

aim at a wider view of the limits of species and look for evidence of close relationship rather than for slight differences, which might justify the adoption of a distinctive name. Their object, in short, was not only to reduce to a common language the diverse designations founded on personal idiosyncracies, but to group closely allied forms under one central type. They must boldly class together plants that they believed to be nearly allied, and resist the undue influence of considerations based on supposed specific distinctions. As a preliminary consideration they must decide upon the most convenient means of expressing the facts of geographical distribution in a concise form. The recognised botanical regions of the world did not serve their purpose; they were not concerned with the present position of mountain-chains or wide-stretching plains that constituted natural boundaries between one existing flora and another, but simply with the relative geographical position of localities from which records of ancient floras had been obtained. In an accompanying map he had divided the surface of the earth into six belts, from west to east. The most northerly or Arctic belt, included the existing land-areas as far south as latitude 60°, comprising—1, Northern Canada; 2, Greenland and Iceland; 3, Northern Europe; 4, Bear Island and Spitzbergen; 5, Franz Josef's Land; 6, Northern Asia. The North Temperate belt, extending from latitude 60° to 40°, includes—7, South Canada and the Northern United States; 8, Central and Southern Europe; 9, Central Asia. The North Subtropical belt comprises the land between latitude 40° and the Tropic of Cancer, including—10, the Southern States of North America; 11, Northern Africa, part of Arabia and Persia; 12, Tibet and part of China; 13, Japan. The Tropical belt, embracing the land-areas between the Tropics of Cancer and Capricorn, includes—14, Central America and the northern part of South America; 15, Central Africa and Madagascar; 16, India, the Malay Archipelago, and Northern Australia. The South Subtropical belt, extending from the Tropic of Capricorn to latitude 40° south, includes—17, Central South America; 18, South Africa; 19, Central and Southern Australia. The South Temperate belt includes—20, the extreme south of South America; 21, Tasmania; 22, New Zealand.

DEVONIAN AND LOWER CARBONIFEROUS FLORAS.

The scanty records from pre-Devonian rocks afforded but little information as to the nature of the vegetation that existed during the period in which were deposited the Cambrian, Ordovician, and Silurian strata that now formed the greater portion of the Welsh and Cumberland hills. They must wait for further discoveries before attempting to give more than the barest outline of the plant-life of those remote epochs. Their knowledge of the plant-world which existed during the Silurian period was far too meagre to justify any statement as to geographical distribution. Of the few records of supposed Silurian plants, several had been shown to be unsatisfactory, and the nature of others was too uncertain to admit of accurate identification. The Lepidodendron-like fossil from the Clinton limestone of Silurian age in Ohio, described by Claypole in 1878 as *Glyptodendron*, had been referred by a later writer to a *Cephalopod*. Stur's Bohemian plants, described in 1881, were too imperfect to afford any information of botanical value; while the Ferns and Lepidodendroid plants recently recorded by Potonié from the Hartz Mountains were more likely to be of Devonian than Silurian age. The earliest plants that had been found in sufficient number, and in a state of preservation which rendered their identification possible, were those from Devonian rocks. From Bear Island, a small remnant of land situated within the Arctic circle, the late Professor Heer described several Devonian plants; and more recently Professor Nathorst, of Stockholm, had given a full account of this interesting and comparatively rich flora. The relics of plant-life preserved in this Arctic island carried them back through countless ages to a time when a luxuriant vegetation flourished in a region now occupied by ice-bound land and Polar seas. The Bear Island rocks were, in the language which Huxley taught them to use, homotaxial with certain Devonian plant-bearing strata in other parts of the world; they occupied the same relative position in the geological series. The Devonian and Lower Carboniferous plants led them away from the present along converging lines of evolution to a remotest stage in the history of life; they brought them face to face, with proofs of common origins, which enabled them to recognise community of descent in existing groups between which a direct alliance was either dimly suggested or absolutely unsuspected if they confined their investigations to modern forms. They recognised, moreover, in such a plant as *Archæocalamites* an ancestor from which they might derive in a direct line the existing members of the *Equisetales*. In other types, by far the greater number, they saw striking examples of Nature's many failures, which, after reaching an extraordinary complexity of organisation, gave place to other products of evolution and left no direct descendants. Another fact that seemed to stand out clearly was, the almost world-wide distribution of several characteristic Lower Carboniferous plants."

RECENT EXPERIMENTS IN THE HYBRIDISATION OF ORCHIDS.

By CHARLES C. HURST, F.L.S.

The first hybrid Orchid raised by hand was *Calanthe* × *Dominii*, which flowered with Messrs. Veitch at Exeter, in 1853, out of *C. Masuca* by pollen of *C. furecata*. Since then, and especially during the last decade, the number of hybrid Orchids has increased remarkably, until at the present time there are on record more than 1,300, each representing a distinct cross. Of these at least 230 are generic hybrids, while the individuals of each cross are innumerable. The great majority too, are fertile and comprise hybrids of the second, third, and fourth generations. One of the more advanced of these is *Paphiopedilum* × *Kubele*, which contains five distinct species in its pedigree. It is evident therefore that in many respects Orchids offer a wide field to the student of inheritance.

INTERMEDIATE HYBRIDS.

My own experiments in Orchids have been mainly confined to the hybrids between three Indian species of *Paphiopedilum* (formerly known as *Cypripedium*)—viz., *P. Spicerianum*, from Assam; *P. insignis*, from Nepal; and *P. Boxallii*, from Burma. For brevity I will term these S, I, and B respectively, and for simplicity I will deal with a single conspicuous character in each—viz., the colour-markings on the dorsal sepal of the flower. In B these take the form of purple-black blotches more or less confluent. In I they are round regular spots, brown on the green and purple on the white ground. In S these colour-markings are absent. In the first generation (F₁) of Bateson S was crossed with I, and *vice versa*, giving about fifty hybrids, known as P. × *Leeanum*, which I will term SI. The result was practically the same in both crosses, the colour-markings taking the form of a few small regular dots, brown on the green, and purple on the white ground, thus being fairly intermediate between the spotted I and the unspotted S. Individuals from the same capsule varied slightly in the size and number of the dots, as they tended towards the I or S parent. This result is a good illustration of the intermediate or blended type of inheritance which prevails in the great majority of Orchid hybrids. In the second generation (F₂), one of the SI hybrids was crossed with the third species B, and *vice versa*, giving about sixty hybrids known as P. × *Hera*, of which forty-nine have flowered, and thirty have been figured (Hurst, 1903).

As far as the colour-markings are concerned, these forty-nine hybrids fall naturally into two distinct groups. The first group, twenty-three in number, consists wholly of spotted forms, the colour-markings taking the form of numerous irregular but distinct spots, black on the green, and dark purple on the white ground.

The second group, twenty-six in number, consists wholly of lined forms, the colour markings taking the form of suffused lines and stripes, black on the green and dark purple on the white ground. These two groups are apparently discontinuous, so that each hybrid falls naturally into one group or the other, each group having its own set of individual variations. Careful comparison shows that the first or "spotted" group resembles the collateral F₁ hybrid BI, known as P. × *Schlesingerianum* (*Boxallii* × *insignis*); while the second or "lined" group resembles the collateral F₁ hybrid BS, known as P. × *Calypso* (*Boxallii* × *Spicerianum*). These F₁ hybrids, BI and BS, are unmistakably distinct from one another, though individually variable in this particular character; and these same variations are practically repeated in the F₂ hybrids SI × B.

Hence we see that for a single character SI × B = BI + BS. As it is with this character so it is with the other characters so far as they have been observed. These results are a further confirmation of the Mendelian idea of the separation of hybrid characters. According to Mendel the F₁ hybrid SI should for any single character produce pure S and pure I gametes in equal numbers, and not any hybrid SI gametes at all so that in F₂, when SI is crossed with B, the pure B gametes will unite alternately with the pure S and the pure I gametes, and the resulting zygotes will be BS and BI in equal numbers. As we have seen, the actual result is 23 BI + 26 BS, which is near to equality considering the small numbers involved. It is evident, therefore, that the phenomena of the separation of hybrid characters, so brilliantly demonstrated by Mendel in *Pisum*, may also be observed in intermediate Orchid hybrids.

DOMINANT HYBRIDS.

So far the hybrids dealt with belong to the intermediate or blended type of inheritance, as do the great majority of Orchid hybrids. In certain distinct crosses, however, we find that one parent is always dominant in all characters, almost to the exclusion of the other. For example, *Epiphrontis* × *Veitchii*, raised by Messrs. Veitch in 1890 out of *Sophrontis grandiflora* by pollen of *Epidendrum radicans*, is in all its structural characters a pure *Epidendrum*; the only traces of the *Sophrontis* parent being the dwarfier habit, fewer larger and darker flowers, with a few slight modifications of the lip and crest. Indeed, did we not know that *Sophrontis* was the other parent,

it would have been impossible to have suggested it. In addition to the above, more than twenty distinct hybrids have been raised between various species of *Epidendrum* with reed-like stems, and various species of *Epidendrum*, *Lælia*, *Cattleya*, and *Sophranitis* with pseudo-bulbs, comprising thousands of individuals, and all without exception have the reed-like stems and general characters of *Epidendrum* (cf. Hurst, 1898 and 1900.) Unfortunately these hybrids have so far proved infertile, their pollen being apparently defective and actually impotent. We cannot therefore test their nature by further breeding, and it is impossible to say whether they are comparable to Mendel's cases of dominance in *Pisum*.

FALSE HYBRIDS.

We now come to those curious cases of one-sided inheritance in Orchids to which I have applied Millardet's term of "false hybrids" (1900, page 165.) The most numerous of these are the various crosses that have been attempted by expert hybridists at different times and in different countries, between *Zygopetalum* and several more or less remote genera, with the result that all the offspring have proved to be *Zygopetalum* pure and simple. Altogether more than 400 seedlings have been raised by Messrs. Veitch of Chelsea, Heath of Cheltenham, Bleu of Paris, Ross of Florence, Leon of Bletchley, Orpet of S. Lancaster, U.S.A., McWilliam of Whitinsville, U.S.A., and the Rev. Horner of Kirkby Lonsdale. The seed-parent in each case was *Zygopetalum Mackayi* (the reverse crosses being unsuccessful). The pollen used was from *Odontoglossum Pescatorei*, *O. crispum*, *O. grande*, *O. biconense*, *Oncidium tigrinum*, *Lycaste Skinneri*, *Lælia anceps*, *Calanthe vestita*, and *Vanda corulea*. All the 400 seedlings raised from these matings proved to be exactly like the seed-parent, *Z. Mackayi*. It is interesting to note, however, that the individuals raised from the same capsule varied in size and colour of the flowers in the same way that the seed-parent species does in its native habitat.

In other words, the "false hybrids" behaved just as if they had been raised from self-fertilised seeds, but, as I showed in 1898, self-fertilisation, direct or indirect, was impossible in these cases, as the pollinia of the seed-parents were all carefully removed before the crosses were made (1898, p. 477). Apart from this, too, the peculiar structure of these Orchids makes self-fertilisation impracticable, as Darwin has well shown (1862, p. 150, f. 23). Nor is it apparently a case of Mendelian dominance, for in the second generation (F_2) the characters of the seed-parent are again repeated pure and simple, even when the "false hybrid" is re-mated with the supposed recessive. This experiment was carried out by Mr. McWilliam, by re-mating one of the F_1 "false hybrids" (*Z. Mackayi* \times *L. anceps*) with pollen of *L. anceps alba*, and the result was still *Z. Mackayi* pure and simple.

It seems clear, therefore, that we have in these *Zygopetalum* seedlings, "false hybrids," comparable to the original ones of Millardet in *Fragaria* (1894). It may be noted that all the "false hybrids" in Orchids so far are maternal in all characters, as were the majority of Millardet's (1894), and also Bateson and Saunderson's *Matthiola* (1902, p. 79).

Other experiments, however, show that "false hybrids" may occur that are paternal in all characters, as in a few of Millardet's *Fragaria* (1894), and De Vries' *Eurothera* (1903, p. 31). The most interesting cases of "false hybridism" are, however, only just coming to light both in plants and animals, in which a single character only behaves as a "false hybrid," the remaining characters being true hybrids.

These may be purely maternal in one character, as in Bateson's *Single comb Poultry* (1902, p. 115), and apparently in Spillman's *glabrous and long-headed Wheats* (1902, p. 97); or they may be purely paternal in one character, as in Bateson's *Single comb Poultry* (1902, p. 115), and my own unpublished experiments with plumage colour in poultry.

Whether all these types of "false hybrids" have a common explanation is difficult to say, but so far as the *Zygopetalum* series is concerned, in 1900 I suggested that the stimulus of fertilisation might induce a kind of parthenogenesis, without actual union of the sexual elements (1900, p. 166), causing the "false hybrids" to resemble the seed-parent in all characters. This idea has been favourably received by Bateson (1902, p. 157) and De Vries (1903, p. 31), and it seems quite feasible that an extension of it to individual gametes of either parent may ultimately explain all the phenomena of "False Hybridism," or Monolepsis, as Bateson more precisely terms it (1902, p. 165).

In conclusion, there is no doubt that the question of "False Hybridism," or Monolepsis, opens out a wide field for original research in many genera of plants and animals; and as our knowledge of normal inheritance increases, the need for experiments into the nature of one-sided inheritance becomes more urgent and pressing.

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ZYGOPETALUM \times ROEBLINGIANUM (*Z. ROSTRATUM* \times *Z. MAXILLARE* *GAUTIERI*).

THIS remarkably handsome new hybrid Orchid (fig. 93), which has created quite a stir among British orchidists, was awarded a First-class Certificate by the Orchid Committee of the Royal Horticultural Society on Sept. 15. The variety was raised by Mr. H. T. Clinkaberry, gr. to C. G. Roebing, Esq., of Trenton, New Jersey, U.S.A., and the plant was brought over by Mr. Fritz Sander, of Messrs. Sander & Sons, in order that it might be flowered, shown, and afterwards sold without reserve at Messrs. Protheroe & Morris's Auction Rooms, Cheapside, and the amount

THE GARDENERS' RECEPTION AND DINNER.

(ON SEPTEMBER 29, 1903.)

DOUBTLESS many of those who, like myself, live at a considerable distance from London, have been awaiting some kind of a programme of the proceedings that are to take place at the above function. Are dress clothes to be worn, or is morning dress optional? [Morning dress will be worn. Ed.] This is a little point that often perplexes people, country visitors more especially, and might have been mentioned on the dinner-tickets. The directions given by circular as to the best routes for reaching Chiswick and thence to Holborn are very good; and as the

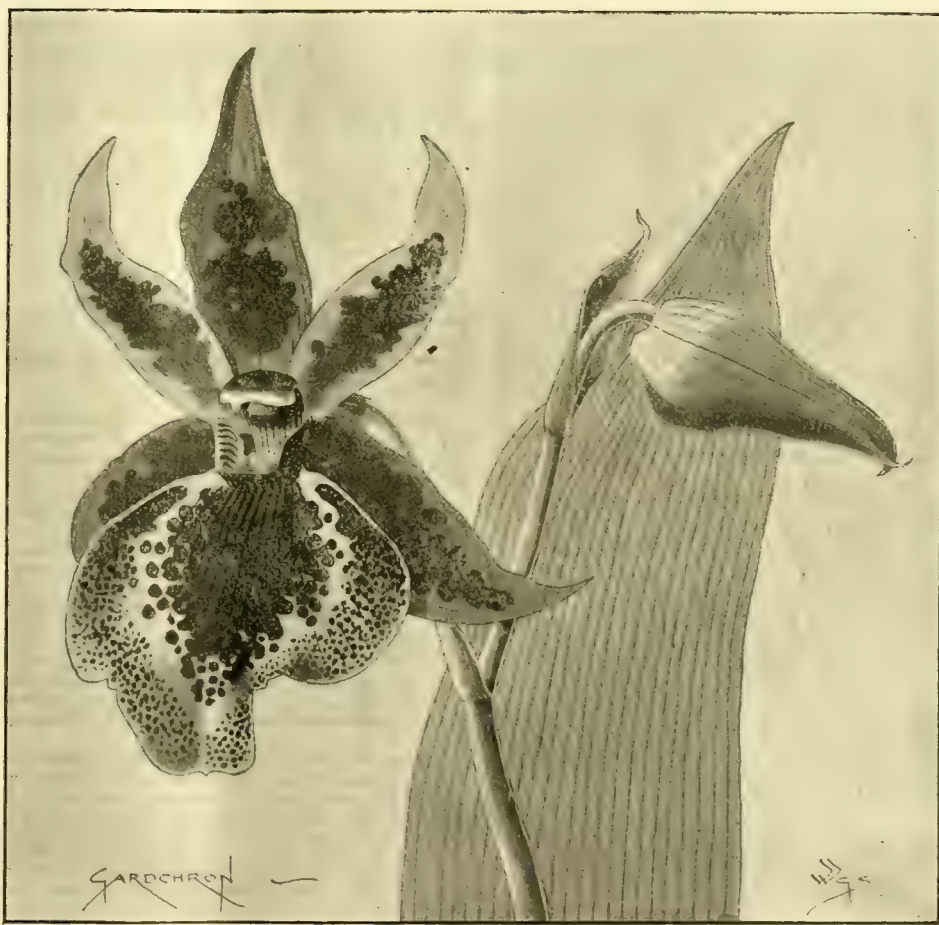


FIG. 93.—ZYGOPETALUM \times ROEBLINGIANUM.

Sold for 50 guineas on September 15 for the benefit of the Royal Horticultural Society's Building Fund.

realised handed over to the Secretary of the Royal Horticultural Society as Mr. Roebing's gift towards the new Hall of Horticulture.

The plant was offered at two o'clock on Friday last, Mr. Harold Morris, who was in the rostrum, announcing that the amount realised would be handed over in full, the auctioneer kindly foregoing all commission on the sale. The plant was started at a low figure, and by fair competition was knocked down to Sir Frederick Wigan, Bart., Clare Lawn, East Sheen, for fifty guineas. The plant was described in the report of the Royal Horticultural Society's meeting which appears in this Journal on September 19, p. 214. The flowers partake greatly of *Z. rostratum* in form, sepals whitish-emerald green, with a purplish marking up the middle; petals nearly white, marked with purple on the inner halves; lip and crest violet-coloured at base, white in front, with purplish-rose coloured markings. J. O'B.

Chiswick Garden is soon to be relinquished, it is to be hoped that many of those gardeners who come to attend the dinner will also be present at the Vegetable Conference at the Chiswick Garden as well and on the same day, viz., September 29. They may then take a last look at what has been one of the most historical and remarkable sites of horticultural progress during the past century. The list of trees and shrubs, and of garden flowers, fruits and vegetables introduced through the Royal Horticultural Society or tested at Chiswick is a long one, and a roll-call of the names of the more notable amateurs, professional gardeners, and of celebrated botanists at various times and in various ways connected with the place, would in its way be equally or even still more remarkable.

The records, of plants and men alike, are enshrined however in the volumes of the *Transactions of the Horticultural Society* beginning in 1812, but containing papers read as early as 1805, or in the

year following that in which the Society itself was established. The *Journal of the Horticultural Society*, commenced in 1846 and continued intermittently until to-day, is also full of details as to the valuable work done at Chiswick and elsewhere; and the file of the *Gardeners' Chronicle*, dating from 1841, is also full of such records, which are moreover especially valuable as being unofficial and independent expressions of the best or most able expert opinion.

Some of us who are deeply interested in horticultural progress look upon this great gathering of gardeners as indicative of progress in horticultural matters, both social and political, and are asking ourselves how the influence of such a meeting will trend. How can a union of 500 gardeners more or less best be made to lend itself to the furtherance of the highest and best aims of gardeners, for gardening not only now, but in the future? It is quite possible that the promoters of this unique gathering may have a surprise packet in store for us, as a sort of grace after meat! At any rate such a meeting is not likely to pass away without leaving in its train some potent suggestions for the good of horticulture, and for the benefit of those who follow it zealously as a profession. Seeing that horticulturists as a body so seldom meet at the festive board, except on charitable occasions, it has been hoped that this reception and dinner is only the beginning, and that its success on the present occasion may lead to its becoming an annual affair. Such a yearly meeting would not only be a social success, but it might be made the occasion of intellectual advancement as well. At such a reunion gardeners would have an opportunity of showing that their craft, calling, profession—call it what one may—is of enormous economic importance; that it is by far the highest form of land culture, and one that exerts a vast and beneficial interest on many other collateral industries and on our home trade. As it is, we have organised means, however inadequate they may now and then prove to be, to assist old and infirm gardeners, their widows and orphans; but the social and political energies of the young, the strong, and the able men in our profession have so far been neglected. In this sense horticulture has been left like an untilled field, and I for one sincerely hope and trust that, directly or indirectly, the present festive meeting may lead towards progress and improvement alike to gardeners and to gardening in Great Britain and Ireland. *F. W. Burbidge.*

HOME CORRESPONDENCE.

GREENWICH PARK.—The flower-beds in Greenwich Park—in the "lake enclosure" around the superintendent's lodge at the Blackheath gates, and thence to the lake—are bejewelled with bloom just now, despite the blustering winds that have buffeted them of late. All those who go there to see cannot but congratulate Mr. W. J. Marlow, who has succeeded Mr. Webster in the post of superintendent. Among the more notable changes which have come about under his rule are that the sward in the enclosure and thereabouts is shorn close, instead of having paths cut through it, with the result of a beautiful emerald setting to the flower-beds and licence to the visitor to stroll here and there at will, instead of keeping within a delimited frontier. All the plants are labelled with both scientific and popular names, and many, admiring the blossoms or foliage, are to be seen taking notes with a view, probably, of acquiring specimens for themselves of those plants which have most hit their fancy. *Kentish Mercury.*

SECOND FLOWERING OF APPLES.—As an illustration of the eccentricities of this remarkable year I may perhaps be allowed to say that I have in my garden a Golden Russet Apple-tree that has produced only one fruit this year; but at this present time (September 14) is bearing

two perfectly formed flowers, notwithstanding that the nights during the past week have been excessively cold, in some instances with slight frost. *John R. Jackson, Claremont, Lympstone, Devon.* [By no means an uncommon circumstance. *Ed.*]

LATE-FLOWERING APPLES.—We have been interested in the correspondence in your columns respecting the merits of various late-blooming Apples. Our experience, however, differs somewhat from some of your correspondents, and we give herewith a list of varieties that are cropping heavily with us this year, most of which flower late in the spring. Jubilee, Prince Albert, and Worcester Pearmain are carrying the heaviest crops, thus proving the great value of late-blooming varieties, which escape the late spring frosts; in fact, for a number of years these varieties have always borne a crop, no matter what the season has been. The following are the varieties of Apples which flower late:—Jubilee, Prince Albert, Worcester Pearmain, Court Pendu Plat, Lord Derby, Lord Grosvenor, The Queen, Newton Wonder, Bess Pool, Sandringham, Domino, Keswick Codlin, Pott's Seedling, Forge, Stirling Castle, Atalanta, Gospatric, Grenadier, King of Pippins, and Hormead's Pearmain. *J. Cheal & Sons, Crawley.*

—In respect to this very important subject, and the liability of frequent losses from spring frost, would it not be advantageous to select late-flowering Crab stocks for budding and grafting standard Apples? I saw a Crab-tree last spring which was a fortnight later in flowering than any other Crab in this district, being fully exposed on all sides to the sun and winds. I think, therefore, it would be well to select such varieties of Crab stocks for budding and grafting upon. *Constant Reader.*

FLOWERING OF BAMBOOS.—I have read with much interest the various remarks of correspondents in the *Gardeners' Chronicle* concerning the flowering of Bamboos in this country, and I recently paid a visit to Mr. Warmington, gardener to Sir J. Llewelyn, Penllergaer, Swansea, who has charge of a very fine collection of Bamboos, numbering upwards thirty species, growing in masses and clumps 15 feet and 16 feet high. Although we looked carefully through the clumps we found flowers and seed only on *Arundinaria Simoni*. It is unfortunate that flowering does not add to the beauty of these plants. In some cases they were partly flowering, and in others even this year the suckers were in bloom. *C. S. Branson.*

THE RECENT GREAT STORM IN SOUTH CORK.—The storm of Thursday week was fearful. The one in February was bad enough, but the leaves being on the trees there was greater havoc this time. A huge Beech, I suppose 150 years old, was blown across the road leading to Ard Cairn, the top coming within the grounds. Most of the Apples, poor as the crop was, have been blown off. It is astonishing, though, how some sorts withstand the wind, no matter how strong it may be—Worcester Pearmain and Stirling Castle are examples of this. I have some nice fruits of both, and the crop is a full one, the Worcester Pearmain being wonderfully well cropped for the season. My lovely tree of *Abutilon vitifolium*, 20 feet in height, is levelled—a matter for regret, it being such a fine specimen of a rather rare plant. Any person caring to get a piece of the wood as a curiosity may be supplied on sending 6d. in stamps. I do not suppose any collector of timber in the United Kingdom has the same. I intend to replace the tree with a young plant. *W. Baylor Hartland, Ard Cairn, Cork, September 14, 1903.*

THE GALE.—I shall be much obliged if any of your readers who have had rare or curious trees blown down by the gale would let me know, as I am anxious to procure samples of wood from some, and shall be happy to pay their full value and expenses if they would kindly let me know. I want especially the following, if not less than 8 to 10 inches in diameter:—*Magnolia acuminata*, *Tilia americana*, *Koeleria paniculata*, any American Maple or Oak, *Sophora japonica*, *Cladrastis amurensis*, *Virgilia lutea*, *Gymnocladus canadensis*, *Prunus serotina*, *Pyrus*

minalis, *Liquidambar styraciflua*, *Nyssa biflora*, *Fraxinus ornus*, *Catalpa speciosa*, *Celtis australis*, *C. occidentalis*, Mulberry, Plane, Hickory, *Juglans cinerea*, *Pterocarya caucasica*, any Birch except alba, *Corylus columna*, any rare Conifers, if large enough to contain heart-wood. *H. T. Elwes, Colesborne, near Cheltenham.*

HUMEA ELEGANS IN PEACH-HOUSES.—Plants of Humea, if placed in a Peach-house when the trees are in active leafage, will be a cause of injury to the Peach trees. Many years ago, when I was gardener at Combe Abbey, we placed a lot of Humeas in a Peach-house as being a convenient and suitable place for them, but shortly after putting them there, I cannot now remember how long, the leaves of the trees plainly showed signs of distress. I drew the attention of some of my young men to the appearance of the leaves of the Peach trees, and we came to the conclusion that the presence of the Humeas might be the cause of the appearances, and I at once had them removed, and soon after the trees resumed a healthy appearance. Whatever noxious elements are exhaled from the Humeas only an analytical chemist will be able to tell us, but this much we do know, namely, that when placed in a close atmosphere the smell of the Humeas is more offensive than pleasant. If any of the men who happened to be with me at Combe at that time can call the circumstance to mind, they could verify my statement; but the notice to which "A. D." draws our attention, besides that of my own, is the only one I ever know to be recorded; but these remarks may probably elicit more. *W. Miller, Berkswell.*

—Being interested in the article by your correspondent "A. D." in your last issue concerning Humeas and Peaches, I send a sample of Peach-leaves for your kind inspection taken from trees which have been growing within 3 feet of a batch of Humeas all the summer. As you will see, they are in perfect condition, and show no signs of injury through being brought in contact with the Humeas. Since reading about Mr. Fyfe's curious experience, I have made a careful examination of our trees and have failed to find any trace of the injury described by him. *H. Smith, foreman, Buscot Park.* [The leaves sent by our correspondent were robust, dark green, and without any blemish whatever. *Ed.*]

CROCUS SCHAROJANI.—It may be of interest to many to know that this vivid orange-flowered species from the Caucasus and mountains of Trebizond has recently been introduced by Mynheer C. G. van Tubergen, jun., of Haarlem. It was in cultivation in British gardens years ago, but I only once saw it in flower in the Royal Gardens, Kew. It is interesting as being the earliest of all autumnal kinds to flower, and its colour in this section is quite unique. As a rule, its cheerful blooms push up in August, but occasionally they appear in mid-July. It is closely followed in September by *C. cancellatus* var. *ciliatus*, and the great blue *C. speciosus*. Mynheer van Tubergen may be congratulated on his success in the introduction of many rare and interesting bulbs, such as *Iris*, *Tulips*, *Fritillarias*, &c.; and lastly but by no means least on his having again rescued this beautiful Crocus from oblivion, and restored it, not without many practical difficulties, to British and Continental gardens. *F. W. Burbidge.*

THE SHREWSBURY CHAMPION GRAPE CUP COMPETITION.—Surely the task of winning the coveted Shrewsbury Grape Cup three times will be found difficult enough without any additional tantalizing paper skirmishes, which in the present case are quite uncalled for, as it is admitted by all, including the Messrs. Buchanan themselves, that the pointing was correctly and fairly done, and the judges' final decision a just one. I am greatly surprised and sorry to find such plucky and formidable opponents lowering their standard after admitting the just treatment meted out to the competitors, as recently recorded in the columns of the *Gardeners' Chronicle*. Now may I ask what would be thought of an exhibitor who staged culinary Apples and cattle Cabbages in classes in which dessert or table varieties were invited, and then complaining of not getting the prize, although his exhibits were by far the

largest and heaviest? I noticed that some of the usual clever onlookers thought the exhibits obtaining the maximum points should have won the prize; if this were so it would defeat the object of the pointing system, as the results of the Shrewsbury contest plainly illustrates how seldom it is possible to obtain the better-class varieties in the best condition. But as great stress seems to be placed on the maximum problem, I may be pardoned for repeating the opinion of some of my more friendly opponents, who thought the judges might have been a trifle more liberal to my Black Hamburg and Madresfield Court Grapes, which meant, as I imagine, that they were deserving of a maximum. Doubtless the judges, however well balanced, would experience some slight difficulty in transferring their vision (as it were) from an elephant to a thoroughbred horse, and assess each at its proper value; but as we ought to speak favourably of the bridge that carries us safely over the stream, I am satisfied to let a win suffice, narrow as the margin appears to have been; the same as does a few inches of a horse's nose in a race, however great the prize. There appears to be some erroneous ideas about the altered conditions of the competition. All the competitors (and others) were perfectly cognisant of the fact that the 1903 schedule contained plainly-printed instructions to exhibitors, while that of 1902 simply referred exhibitors to the Royal Horticultural Society's code by way of instructions for the guidance of the judges. Neither do I think it advisable to make any change during the present competition, for anxious and courteous as the Committee have always been to one and all alike, they doubtless know the difficulty of trying to please everybody, which invariably ends in nobody being pleased. It is a little amusing to find the Messrs. Buchanan comparing some of the Shrewsbury exhibits to those usually seen at our village shows. I may remind them that it is their pet Alicantes which we usually find there in galore, and if big bunches are to prevail, Mr. Shingler has the Cup well in hand, for when visiting him a few days since I remarked that he had plenty of those wonderful clusters, similar to those he surprised us with at Shrewsbury last year, still hanging on the Vines. I also note a prophecy regarding a falling off in the number of competitors for the Champion Cup. As a set-off against this, I may say that at least three new competitors are likely to come—viz., one from Scotland in Mr. Kirk, also one from the West in Mr. Taylor, and Mr. Kenna from Tullamore. When at Shrewsbury, one of those enterprising single-handed growers, whom it is dangerous to despise, showed me some pleasing samples, regretting he had not entered for the Cup class. However, had the arrangements been left to your humble servant, all the competitors should have entered the race together, and no fresh ones admitted; but we may safely trust our modest fame to the always just Committee, which acts fairly to all alike. *J. H. Goodacre.*

LUPIN SOMERSET.—Your illustration, p. 204, of a group of Lupines prompts me to send you a note concerning the variety Somerset, which is said to be hardy. As to this I cannot speak positively, having had this variety for a brief period only. With me the plant grows exceptionally vigorously, and flowers in abundance. The point about this Lupin is its variety of colour. The ground-work is yellow, this being tinted with red, which imparts a pleasing as well as novel appearance to the flowers. *E. M., Hants.*

THE THORNLESS ROSE.—It seems appropriate at this moment to recall what one of the Fathers of the Greek Church, St. Ambrose, said on this subject:—

"Before the Fall, the Rose was born,
St. Ambrose says, without the thorn;
But with the Fall then came the thorn,
Without the fragrant Rose-bud born,
But ne'er the Rose without the thorn."

Helen M. Everard, Newbold, Leamington.

THE LATE JAMES SMITH, V.M.H.—With feelings of intense pain I have but just read in this (Monday) morning's *Daily News* of the death, on Friday, September 18, in Scotland, of a very

highly esteemed colleague on the Fruit Committee, James Smith, gardener to Lord Rosebery at Mentmore. That death has also of necessity cast a shadow over our gathering on the 29th, for not only was he a member of the Dinner Committee, but took deep interest in it. Gardeners are essentially feeling men, and, when they meet on the 29th, they will speak to each other in bated breath of a fellow-man and a fine gardener, whom to know was to esteem. It was the privilege of those of the Fruit Committee who were present at the last meeting of that body at Chiswick so recently as the 11th inst., to have him present as a colleague, and we thought then how much better he seemed, and much brighter and more cheerful than he had been for some time past. How much now will that remembrance be cherished! He was a worthy member of a craft that has given to the world many able and estimable men. *A. Dean.* [An appreciative Obituary notice of our late friend will be found on p. 231. Ed.]

FUNGI AT THE DRILL HALL.—In the report on the Fungus exhibition at the Drill Hall on Tuesday, 15th inst., I am given the credit for showing a good collection, whereas I only exhibited the large dried specimen of *Fomes australis* from South America. I do not know who sent the other exhibit to which you refer in your report as coming from me. *J. Willard, Holly Lodge Garden, Highgate, N.*

A FINE SPECIMEN OF ERICA BURNETTI.—Sir William Henderson, Devanha House, Aberdeen, has at present in full bloom in one of his greenhouses a superb specimen of a Cape Heath. The variety is *Erica Burnetti*, and it measures 5 feet 3 inches in diameter, and is covered with a multitude of coral-pink blossoms, presenting a beautiful appearance. This variety is one of the most difficult of all Cape Heaths to cultivate, and the excellent condition of the plant reflects great credit on the skill of Sir William's head gardener, Mr. John Proctor. *W. Kelly.* [Not mentioned in *Index Kewensis*, but it is found in *Fl. de Serres*, 8, 845. Ed.]

SULTANIEH GRAPES.—In these days of ceaseless activity in horticulture, when every department seems to be crowded with those who laud to the skies any flower, fruit, or vegetable to which they are partial, it is well to draw attention to those who have the courage to strike out from the old beaten path, and take up some novelty which others have neglected. One of these is Dr. Bonavia, of Worthing, who has written lately on the Strawberry Grape and the Sultanieh Grape. The former I have not seen, but he has been good enough to send me a bunch of the latter, which seems to be very interesting. Most housewives know its value in the Christmas season, when it comes before them in the form of the Sultana raisin. It is very prolific, it produces long bunches, every flower seems to set, it is very sweet and of good colour. It will find no favour with those who are enamoured with that tasteless though good-looking Grape Gros Colmar, but it offers great possibilities, and if Dr. Bonavia, who has taken it in hand, can manage to cross it with some of our established favourites, a new era in Grape culture may be before us, and we may perhaps hope to see a new race of Grapes appealing to our consideration. *Wild Rose.*

EXHIBITING CACTUS DAHLIAS.—Mr. J. Pope's indictment of the existing method of exhibiting Cactus Dahlias has in it much reason, and especially so in the fact that the setting up of the blooms in wire racks or frames entirely misleads purchasers who, ignorant of the true habits of so many of these flowers, buy them because the blooms thus set up look so erect and attractive. But what a sorry spectacle do these flowers present when shown as seedlings for certificates have to be shown. Scarcely one variety in fifty has a stalk that holds the blooms erect; and for the size and beauty of the flower, I do not know of any garden plant that produces its blooms so diffidently and with such a lack of decorative effectiveness as does the Cactus Dahlia. All this comes from the practice of giving awards to flowers solely from their exhibition point of view when staged in frames, and not in the least because of the variety's usefulness in

the garden. I have offered a small prize in connection with the trial of Cactus Dahlias, chiefly of recent introduction, now being conducted at Chiswick, for the varieties which there prove the most decorative as garden plants. I have done this because, whilst a warm admirer of the Cactus varieties, I care so little for the merely exhibition aspects of the flowers, and so much for their garden aspects, and especially for their fitness for use as cut flowers. How many of the varieties that have been awarded certificates are there, which either are so deficient in robustness that they propagate badly or are difficult to grow, or else are never heard of after a second season? What folly it is to waste certificates upon such things that are of so fugitive a nature or so useless in the garden. Would the Rose have been such a popular flower had it existed solely for its suitability for exhibition? Does not that glorious flower owe more now to its garden decorative qualities than to any other cause? At Chiswick, even now, out of so many varieties only one is at present (September 12) at all presentable. I trust ere the month is out a few may be found worthy of being classed as garden Dahlias. *A. Dean.*

CORIARIA RUSCIFOLIA (syn. C. SARMENTOSA).—I enclose a small branch to show the ornamental character of the plant in berry as grown here. I have had much larger clusters of berries, but they have been spoiled by wasps, which eat them greedily. From its perfect hardiness, elegance of growth, and ornamental berries, the plant is well worthy of a corner in any herbaceous border however select. The flowers are small and insignificant, but the berries are beautiful. *Wm. W., N.B.* [Very beautiful indeed. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

SEPTEMBER 15.—Present: Mr. Michael (in the chair); Messrs. Odell, Chattenden, and Worsley, Professor Boulger, Revs. W. Wilks and Geo. Henslow, Hon. Sec.

Silver-leaf disease.—With reference to the report in the minutes of the last meeting, Mr. Gaut wrote as follows:—"I notice in this morning's *Gardeners' Chronicle*, p. 196, a slight error. It is this, 'Silver-leaf was due to a lack of nitrogen in the soil.' It should have been 'presence of too much.' I was quoting Mr. Massee. Mr. Bland, the owner of the fruit trees affected, before he wrote to me, sent some leaves to the Board of Agriculture, who sent them on to Mr. Massee. The following is a copy of the report:—"Copy A, 3350.—Diseased Plum trees.—The disease is generally known as Silver-leaf, and has been proved to be due to the presence of too much nitrogenous food in the soil. Abstain from using farmyard or organic manure of any kind, and sow rape or some quickly-growing crop under the trees. Remove the crop when fully grown." Much hesitation was shown by the Committee in accepting this conclusion, as Portugal Laurels growing in poor, gravelly soil have been known to be badly affected, as much as garden fruit trees.

Asparagus diseased.—Herr Otto Froebel, Zurich V., sent the following communication, with specimens:—"Dear Sir,—Permit me to send you to-day by post a monstrosity I observed since last year on my old plant of *Asparagus retrofractus*. We call such form 'Hexenbesen,' which means 'Witch's broom.' They are often observed on different hardy plants, on Conifers, trees, and shrubs. However, I have never observed this anomaly on any one of my various species of *Asparagus*, and I hope it will be interesting to the readers of the *Journal of the Royal Horticultural Society* if you will bring this notice." Mr. Michael undertook to examine the specimen. "I intend to send you next spring a flowering branch of the quite new *Forsythia europaea* (Deegen and Baldaei), introduced by seeds in 1899 from Albania. I should feel much satisfied if I could send first flowering branches of this new shrub, very hardy in my country, and if this novelty could be figured in your very fine and always most interesting *Journal*."

Chimonanthus, abnormal foliage.—Mr. ODELL showed branches bearing normal as well as bifurcated leaves, arising from a separation of the fibro-vascular bundles of the midrib, at various distances from the base. In some it commenced even in the short petiole.

Eelworm in Agrostis.—Mr. CHATTENDEN showed examples of the unusual position of eelworms in the inflorescence of this grass.

Cecoma in Campanula.—He also showed examples of this fungus in *C. rapunculoides*, as well as an apparently new species of fungus attacking the sepals of *Clematis*.

Dracena with aerial root.—He also exhibited a stem which had been ringed, and had since produced a downward growing "toe," or adventitious root, upwards of a foot above the ground.

Heuchera.—Mr. WILKS received a plant in foliage, on every leaf of which a foliaceous bud was developed at the base of the blade on the upper end of the petiole. There appeared to be no account of such being a normal condition.

Figs drying and falling.—Mr. WORSLEY drew attention to the fact that certain Figs frequently ceased to mature after a certain time, then dried up and fell off. The general opinion was that nourishment was diverted by some cause or another, as the winter Figs in this country always fall off as soon as foliage appears.

NORTH LONDON DAHLIA SOCIETY.

SEPTEMBER 9, 10.—This was the third exhibition of this growing Society, and the commodious Queen's Hall was nearly three parts filled with exhibits. A few classes were thrown open to all comers, and these brought some fine blooms from growers at a distance, though those shown by local exhibitors were generally very good.

Mr. A. PERRY, Hardy Plant Nursery, Winchmore Hill, set up a very fine bank of hardy flowers, and Certificates of Merit were awarded to *Helianthus tomentosus* and *Geum Heldreichii* superbum, both being in fine character.

Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, had a very fine bank of Dahlias, among which there were several nice flowers of the Cactus, Pompon, single-flowered, and show varieties. Certificates of Merit were awarded to Mrs. D. B. Crane, a promising white variety; and to single Dahlia Princess of Wales, a mixture of sunset hues, salmon, orange, and rose.

Mr. J. T. WEST, Dahlia specialist, Brentwood, had a similar fine collection, and a Certificate of Merit was given to Cactus Charm, a beautiful and novel form, pale orange-red tipped with blush and delicate violet.

Messrs. CUTBUSH & SON, Nurserymen, Highgate and Barnet, had a large number of Cactus Dahlias set up in bamboo stands and vases, arranged with Fern fronds.

Messrs. W. WELLS & Co., Ltd., Earlswood Nurseries, had several bunches of early-flowering Chrysanthemums, and Certificates of Merit were awarded to Carrie and to The Champion, two yellow flowered varieties.

Other small trade exhibits were also staged, including some pretty floral decorations set up by Madame Hélène.

Evidently the local growers favour the Cactus varieties, for they dominated in the local classes. Some pretty Pommoms were staged, the tendency being to cut them too old, and the same fault appeared to characterise the show Dahlias. There were a few single varieties, but they are evidently only sparingly grown in the north of London.

In addition to Dahlias there were special prizes for hardy herbaceous perennials, which appeared to be well grown in the locality; Phloxes, Hollyhocks, Gladioli; annuals, including Sweet Peas; also for tuberous-rooted Begonias, foliage plants, table plants, and for floral decorations, épergnes, &c., making up as a whole an attractive display.

One encouraging feature is the large number of ladies and gentlemen who offer special prizes for various subjects, and in this respect they are supported by the local florists.

DERBY HORTICULTURAL.

SEPTEMBER 9, 10.—This show, held on the above dates, was held in connection with the Agricultural Society's show, and was a very successful one. The schedule contains 130 classes, in many of which the prizes are valuable, and this season, notwithstanding its inclemency, the large marquee with its annexes were filled with plants, flowers, vegetables, and fruit of excellent quality generally.

The chief class in the show was that for a decorative group of plants to cover 200 square feet, arranged in the form of a segment of a circle. This brought five exhibitors, the 1st prize being £20, 2nd £16, 3rd £12, 4th £8, 5th £5, and 6th £3. The strong opponent of past years was Mr. J. Oakes, J.P. (gr., J. Ward), Riddlings House, who this year failed to compete, and the 1st prize fell to Mr. G. H. TURNER (gr., Mr. J. Thompson), Littleover House, Derby, whose group was a capital example of grouping that was very effective; 2nd, Mr. W. HOLMES, Chesterfield, whose group was heavier in arrangement, the Orchids forming the chief features of

attraction; and Sir O. MOSLEY, Bart. (gr., Mr. G. Woodgate), was 3rd.

The Plant classes brought good examples, and the general competitions were keen. Mr. G. CARRINGTON and Mr. E. ROE were well to the front for Dahlias and Roses. Another successful exhibitor was Mr. JOSIAH WOOD.

In the Fruit classes Mr. GOODACRE followed up his Shrewsbury successes, taking prizes in every class for Grapes, his Muscat of Alexandria, Black Hamburgs and Madresfield Court being extraordinarily fine.

For Apples, Peaches, Plums, &c., the same exhibitor scored heavily; Messrs. BRIGGS and H. D. SMITH following as 2nd and 3rd.

A keen competition ensued in the Vegetable classes, the quality of which was of the highest excellence, Mr. J. READ, Mr. J. HUDSON, and Mr. G. WOODGATE taking the chief prizes.

Messrs. Sutton's prize went to Mr. G. WOODGATE, and Messrs. Webb's to Mr. S. W. THOMPSON.

TRADE EXHIBITS.

These came from Mr. J. H. WHITE, Worcester, hardy herbaceous perennials; Messrs. J. CHEAL & SONS, Crawley, Dahlias; Messrs. R. W. PROCTER, Derby, Roses, Dahlias, &c.; Mr. W. L. PATTISON, Shrewsbury, Pansies and Violas; Mr. DEVERILL, Banbury, Onions; Mr. W. B. CHILD, herbaceous perennials; Messrs. HEWITT, Birmingham, Carnations, &c.; and Messrs. WEBB & SONS, Wordsley, stand consisting of vegetables and flowers. *Orchid.*

MANCHESTER AND NORTH OF ENGLAND ORCHID.

SEPTEMBER 11.—Present; Messrs. S. Gratrix, W. Thompson, R. Ashworth, A. J. Keeling, J. Cowan, R. Johnson, W. Holmes, H. Smith, P. Weathers (Hon. Sec.)

The meeting on this date was held at the Royal Botanical Gardens at Old Trafford in fine weather. There was a good display of plants, groups of them being contributed by S. GRATRAX, Esq. (Silver-gilt Medal), E. ROGERSON, Esq. (Silver Medal), T. STATTER, Esq. (Silver Medal), Messrs. SANDER & SONS (Silver Medal), and to Mr. A. J. KEELING and Mr. S. ALLEN (Votes of Thanks).

S. GRATRAX, Esq. (gr., Mr. Cypher), had in his group some very choice plants, one of which, viz., *Brassia Cattleya* × *heatonensis*, gained a First-class Certificate; the parents of this hybrid are *Cattleya* × *Hardyana* × *Brassavola Digbyana*, and the flowers are of fine quality; *Cypripedium* × *Chorltoni*, a cross between C. Charlesworthii × C. × *Harrisianum*, received an Award of Merit; *Sophrone-Laelia* × *heatonensis*, a good richly-coloured hybrid (*Sophroneitis grandiflora* × *Laelia purpurata*), received an Award of Merit; and *Cypripedium* × *Eismannianum* variety *grandiflora* gained a similar award.

E. ROGERSON, Esq. (gr., Mr. Blomily), received a First-class Certificate for *Cattleya* × *Iris* var. *magnifica*, and for *Cypripedium* × *Massaianum* var. *superbum*, the latter being a very fine form. The same amateur received Awards of Merit for *Cattleya* × *Maroni* var. *Olive*, *Cattleya* × *Boadicea*, and *Cypripedium* × *Para* (C. *bellatulum* × C. *Charlesworthii*).

Messrs. SANDER & SONS received an Award of Merit for *Cattleya* × *Ella* var. *superba* (C. *bicolor* × C. *gigas*).

T. STATTER, Esq. (gr., Mr. Johnson), exhibited *Cattleya* × *Bymerianus*, for which an Award of Merit was voted.

JOHN COWAN & Co., LTD., exhibited a magnificent form of *Cypripedium Lawrenceanum* var. *Gratrixianum*, which was awarded a First-class Certificate.

Mr. A. J. KEELING exhibited a fine plant of *Masdevallia macrura*, which received an Award of Merit. P.W.

READING & DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

The last two gatherings of the members of this Association were of an enjoyable character, visits being paid to Danesfield, Marlow, by permission of Mr. R. H. Hudson, and to Hillside, Reading, by invitation of the President. The outing to the former place was by steamer, and the party numbered about sixty. Arriving at Medmenham, the visitors were met by Mr. J. Gibson, the head gardener, and conducted across the meadows to the polo ground, where lunch was partaken of. The President, Mr. Leonard Sutton, presided, and on behalf of the members tendered to Mr. Hudson their thanks for allowing them to visit Danesfield for the second time. After lunch the party first inspected the kitchen garden, and needless to say great interest was manifested in the various crops of vegetables, specimens from which have made the name of Danesfield famous in horticultural circles during the present year. A stroll through the grounds and a game of cricket made the remainder of the day pass pleasantly.

The visit to Hillside took place on the 14th inst., and was the first meeting of the present session. Previous to the meeting over one hundred members sat down to a substantial tea, afterwards making an inspection of the gardens. The subject for the evening's discussion

was "Notes on a Recent Visit to the Gardens at Bearwood," questions on the culture of crops seen to be answered by the head gardener, Mr. W. Barnes.

The subjects touched on were Strawberries, Begonias, Peas, Melons, Carnations, Vines, Peaches, Cauliflowers, Potatoes, Seakale, Onions, Lily of the Valley, Beans, Celery, Solanums, soils, &c.

Before separating, a hearty vote of thanks was accorded to the President for his kind hospitality, and to Mr. Barnes for leading the meeting. Several new members were elected.

CROYDON AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT.

SEPTEMBER 15.—Cryptogamic plants, or the lower order of plant-life, formed the subject of a lecture delivered before the members of this Society at their Rooms, Sunflower Temperance Hotel, on the above date. The lecturer, Mr. G. W. T. Shrubshall, alluded to the little attention generally devoted to this race of plants. The exhibits at the meeting also proved attractive, and unanimous thanks were freely expressed to the exhibitors.

The next paper will be read on October 6; when Mr. J. Cheal, Lowfield Nursery, Crawley, will take "Horticulture in America and Canada," illustrated with lantern views.

LONDON DAHLIA UNION.

SEPTEMBER 16, 17.—A good show of Dahlias was held on the above dates under the auspices of the London Dahlia Union in the Prince's Hall at Earl's Court Exhibition. The arrangements were in the hands of Mr. RICHARD DEAN, and by the use of a number of Palms and other green foliage plants the appearance of the exhibition as a whole was much improved. In most of the competitive classes there were numerous exhibits, and of miscellaneous collections from the trade there was a large and brilliant display.

CACTUS VARIETIES.

The first class was for displays of Cactus Dahlias arranged on table-spaces of 12 feet by 6 feet, with light foliage, Ferns, and Grasses. The 1st prize was awarded to the only exhibitor, Mr. V. SEALE, of Sevenoaks, who by means of tall Bamboo stands and other receptacles, furnished with good flowers, made an imposing exhibit.

An interesting class was that in which Mr. William Marshall offered prizes for the best six bunches of Pompon Cactus-flowered varieties, with a view to encourage the development of small, refined flowers of this type. The exhibits in this the first year were sufficient to show that such a type would possess much attraction. Messrs. KEYNES, WILLIAMS & Co., Salisbury, obtained 1st prize, showing the varieties Coronation (rosy-crimson), Fairy (greenish yellow and white), and Dolly (red and white); 2nd, Mr. M. V. SEALE.

In a class for twelve bunches of Cactus blooms, distinct, Messrs. J. STREDWICK & SON, St. Leonards, beat four competitors. Amongst the varieties were the following:—Pearl, a lovely flower of rich clear mauve-pink colour with white centre; Comet, a flaked variety; Florence M. Stredwick, white; and Mrs. Ed. Mawley, yellow. 2nd, Messrs. J. BURRELL & Co., Cambridge, who had two noteworthy varieties in Premier, bright red colour; and Violette, a very large flower, lacking refinement, but possessing a distinct shade of violet colour, in recognition of which a Certificate was awarded this novelty.

The best exhibit of twenty-four Cactus blooms on boards was shown by Messrs. J. BURRELL & Co., and the following varieties were noticed in particular—Violette, W. J. Gallon, reddish orange colour; Joyce, rosy-crimson; Dulcis, Blanche, white, with lemon-coloured centre; and J. H. Jackson; 2nd, Messrs. J. STREDWICK & SON; 3rd, Messrs. KEYNES, WILLIAMS & Co., Salisbury.

The best exhibit of twelve blooms, distinct, on boards was from Mr. M. V. SEALE; Messrs. J. STREDWICK & SON being 2nd; and Mr. E. WEST, Jr., had the best exhibit of six blooms.

In a class for the best six blooms of any Cactus variety, those varieties that gained prizes were Mrs. Ed. Mawley (1st prize), J. Bryant, and Mrs. de Luca, all of shades of yellow.

In the Amateur classes for Cactus Dahlias, the principal competition was one for the best collection of nine varieties, three blooms of each, shown in bunches, for which the 1st prize consisted of the Hobbies Challenge Cup and £2. Mr. H. A. NEEDS, Woking, was awarded 1st prize; and Mr. W. PETERS, Holmhurst Gardens, St. Leonards, 2nd. Mr. M. H. BROWN, 174, North Street, Luton, had the best collection of six varieties, three blooms of each; Mr. ED. MAWLEY being 2nd. Mr. H. A. NEEDS the best collection of twelve blooms.

SHOW AND FANCY VARIETIES.

The flowers in this section were very satisfactory to the florist. Not only were there many collections of

Obituary.

MR. JAMES SMITH.—There are numerous readers of this journal who will read with profound regret of the passing away, rather suddenly, of Mr. James Smith, head gardener to the Earl of Rosebery, at Mentmore, Leighton Buzzard, a post he had worthily filled for twenty-eight years. The deceased had been suffering for a long period of time from a trying malady, which he endured with exceptional patience; and some time back his condition was such as to cause grave anxiety to his family, but owing to the skill and unremitting attention of his doctor he seemed to recover to an unexpected degree. On Tuesday, September 15, he went for a short holiday to Aberdeenshire, to revisit the scenes of his boyhood at Cullen, and on Thursday the 17th he was taken ill, and passed away at midnight.

Mr. Smith, who was one of the most genial of men, and popular among all classes in the locality, was well known throughout the country; he was a trusted and faithful servant, one who held a high and distinguished position in the ranks of

Committee. His services were often and eagerly sought as judge at horticultural and floral shows in the district. The flourishing Mentmore horticultural show, of which he had been an active promoter since the date of its inception, owes much to him, and his object was always to promote the success of similar local exhibitions. Further afield, where his marked abilities have always been highly appreciated, Mr. Smith has acted as judge at Edinburgh, the Crystal Palace, the National Rose Society's shows, at Northampton, Shrewsbury, and elsewhere; in fact, exhibitions of importance throughout the land have been few at which the services of the deceased have not at some time or another been requisitioned. His interest in fruit-growing, and especially in the cultivation of Plums, was very keen, as witness the splendid orchards at Mentmore and Cheddington, which have under his management attained such a flourishing condition. Mr. Smith's kindly assistance to cottage-garden and allotment-holders and societies has been most valuable. Mentmore, it goes without saying, has lost a talented and highly-valued servant, under whose direction many improvements and developments have been effected in connection with the beautiful and famous gardens and grounds in which his life was almost entirely wrapped up. The deceased leaves a widow and six adult daughters. The mortal remains were brought to Mentmore on Tuesday, and the funeral took place on Thursday, the 24th inst.

MR. JOHN BESWICK.—This old Middleton florist died recently at Middleton, in his eightieth year, and was buried on the 19th inst. He was one of a band of florists who had maintained the traditions of the locality as a centre of florists' flower culture, and had made the gold-laced Polyanthus a specialty, as also Auriculas, Carnations, &c. He had been a constant attendant at the Auricula shows held at Rochdale, Manchester, and other places in the North, but increasing infirmities had made him an absentee for the last three or four years. It is said that he leaves a stock of a new scarlet bizarre Carnation of his raising, of very fine quality. Unfortunately the old man had become reduced in circumstances, and he leaves an elderly daughter, who had been his companion, and who, it is to be feared, is only scantily provided for.



THE LATE JAMES SMITH, V.M.H.

his profession, and was sincerely respected by all with whom he came in contact. He was born at Belhelvie, near Aberdeen, and had attained the age of sixty-six years.

Mr. Smith was apprenticed, together with the late A. F. Barron and Fraser Smith, of Cullen, at Crathes Castle Gardens, Kincardineshire, and he was at one time under gardener at Scone Palace, Perthshire.

During the long term of his residence at Mentmore, he had held his appointment successively under the late Baroness Meyer de Rothschild, then under the Countess of Rosebery when Miss Hannah de Rothschild, and in the remaining years under the Earl of Rosebery. Mr. Smith came to Mentmore from Exton, the country seat of Earl Gainsborough, having in earlier years been in the service, at High Elms, nr. Bromley, in Kent, of Lord Avebury, at that time known as Sir John Lubbock. He held a prominent position in the gardening world; he was a Fellow and Member of the Fruit and Vegetable Committee of the Royal Horticultural Society, and a holder of the Victorian Medal of Honour. He was for many years a regular contributor to the columns of the *Agricultural Gazette*, and a frequent and valued writer to the *Gardeners' Chronicle* and other gardening journals, and recently had been engaged in assisting in the revision of a well-known work on gardening. He was one of those who helped to found the Royal Gardeners' Orphan Fund in 1887, and for several years was a member of the Execu-

BOOK NOTICE.

THE SCALE INSECTS OF THE LESSER ANTILLES:
By H. Maxwell-Lefroy, M.A., F.E.S., &c.
Issued by the Commissioner of Agriculture of the Imperial Department of Agriculture for the West Indies. (Pamphlet series No. 22, pp. 1—50, 1903.)

THIS concise little work completes Mr. Maxwell-Lefroy's contribution to our knowledge of the scale insects and mealy bugs of the West Indies. The object of the pamphlet is to enable anyone however unfamiliar with insects to obtain such information about these pests as will enable him to cope with them successfully. The author's descriptions of the insects are given in such clear and simple terms that the horticulturist and fruit-grower should have little difficulty in identifying the Coccids of the Lesser Antilles. A list of the important food-plants is also given, and in every case the author has suggested the remedies* that have been found most effective in getting rid of the insects. Thirty-one species are dealt with, completing the fifty-one species at present destructive or likely to prove so in the immediate future. Of this total twenty-two are regarded as native, twenty-five as introduced, and four are of doubtful origin. It may interest the English horticulturist to know that no less

*The remedies to be used for these pests were fully discussed in Part I., pp. 21—27, issued 1901.

blooms, but these were good in size, and as symmetrical as if made to pattern. The best collection of twenty-four blooms came from Mr. STEPHEN WALKER, High Street, Thame, Oxon; Mr. CHAS. TURNER, Royal Nurseries, Slough, was 2nd; and Mr. S. MORTIMER, Rowlage Nurseries, Farnham, 3rd.

In the class for twelve blooms, Messrs. J. CHEAL & SONS, were 1st; and Mr. J. R. TRANTER, Henley-on-Thames, 2nd. The best collection of twelve blooms from an amateur was shown by Mr. T. ANSTISS.

POMPON AND SINGLE DAHLIAS.

Mr. C. TURNER, had very pretty collections of Pompoms in classes for twelve varieties in bunches containing ten blooms, and six varieties in bunches of six blooms. The new ones, Daisy, San Toy, and Queen of Whites, were included, and a mave-coloured flower named Wilfred was very attractive.

The best single Dahlias were shown by Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, who obtained 1st prize in a class for twelve varieties in bunches of six blooms. The varieties Darkness and Princess of Wales, both of which were shown at the last meeting of the Royal Horticultural Society, were on this occasion awarded Certificates of Merit. Mr. M. V. SEALE was 2nd; and Mr. S. WALKER, 3rd.

The best exhibit of six varieties from an amateur came from the Rev. S. SPENCER PEARCE, Combe Vicarage, Woodstock.

TRADE EXHIBITS.

Messrs. H. CANNELL & SONS, Swanley, Kent, made a large exhibit of first-class flowers of Cactus Dahlias (Gold Medal); Messrs. HOBBS, Ltd., Dereham, Norfolk, an extensive exhibit of Dahlias, Roses, &c. (Large Gold Medal); Messrs. J. BURRELL & CO., a magnificent exhibit of Gladioli (Gold Medal); Messrs. DOBBIE & CO., Orpington, Kent, a collection of Dahlias (Silver-gilt Medal); Messrs. THOS. S. WARE, Ltd, also Dahlias (Silver-gilt Medal); Messrs. JAS. CHEAL & SONS, Dahlias (Silver Medal); Messrs. J. CUTBUSH & SONS, Highgate Nurseries, London, N., Dahlias (Silver-gilt Medal); Mr. ERIC F. SUCH, Maidenhead, hardy flowers (Silver Medal); Messrs. S. SPOONER & SONS, Hounslow, a collection of Apples (Gold Medal); and Mr. J. T. WEST, Dahlias (Silver Medal).

NATIONAL CHRYSANTHEMUM.

SEPTEMBER 21.—The usual autumn meetings of the Committee were resumed on the above date at Carr's Restaurant, Strand, the former meeting-place of the Society, which had been recently rebuilt; Mr. Thomas Bevan in the chair; there being a good attendance. The minutes of the last meeting having been confirmed, the Secretary reported the death of Mr. James Smith, of Mentmore, who had been appointed one of the judges of fruit at the November exhibition; and instructions were given that the Secretary convey to Mrs. Smith and family the sympathy and condolence of the Committee under their bereavement. Mr. Geo. Woodward, Barham Court Gardens, was elected as judge in the place of Mr. Smith. Mr. Tapper, a member of the Committee, having gone to reside at Brackley, Mr. Geo. Caselton, Crystal Palace, Sydenham, was unanimously elected in his room. Mr. C. H. Payne reported that the new catalogue was in the press, and would be issued at the earliest possible moment. A lengthy correspondence was read with the Crystal Palace Company in reference to their intimation that a poultry show would be held in conjunction with the National Chrysanthemum Society's show on November 10, and that the north nave and the space under the central transept would be required for the poultry show, leaving only the southern nave for the purposes of the Chrysanthemum Society. A strongly worded protest made by the Secretary was endorsed, and he was instructed to write to the Company, and express in forcible terms a protest by the Committee against this treatment.

Mr. C. Harman Payne reported that the French National Chrysanthemum Society had arranged to hold their annual exhibition at Lille on November 6 next, and would be gratified by the presence of any friends from this country; also that a deputation from the French Society would attend the November exhibition at the Crystal Palace; and instructions were given that they be suitably entertained. It was also announced that the American Chrysanthemum Society, which held its first exhibition last year at Chicago, had issued an interesting report of their proceedings. It was resolved that, subject to the ability of the President to preside, the annual dinner should be held on November 25, and a small committee was appointed to carry out the same.

The Secretary reported that the annual outing of the Society to Park Place, Henley-on-Thames, was a great success, and was attended by 193 persons. The Secretary was instructed to convey to Mrs. Noble the thanks of the Society for permitting the visit; and also to Messrs. Stanton and Powell for their valuable co-operation. Fifteen new members were elected, and one Society was admitted to affiliation. A vote of thanks was passed to the Chairman for presiding.

than twenty-four of the species enumerated have been met with on cultivated plants in this country, including such well-known pests as the white Rose scale (*Aulacaspis rosæ*), the white Palm scale (*Diaspis boisduvalii*), both the common mealy bugs (*Dactylopius citri* and *D. longifilis*), three species of brown scale (*Lecanium hemisphaericum*, *L. hesperidum*, and *L. oleæ*), and the more recently introduced *Lantana* or Kew bug (*Orthesia insignis*). The work is accompanied by many small pictures, which, although somewhat rough, are sufficiently characteristic to aid the student in his investigations.

ANSWERS TO CORRESPONDENTS.

ADDRESS OF GARDENERS' ROYAL BENEVOLENT INSTITUTION, AND NAME OF SECRETARY: *F. G. G. C. J. Ingram, Esq.*, 175, Victoria Street, Westminster, S.W.

AGAPANTHUS LEAVES: *J. W. L.* We can discover no disease. The injury is a mechanical one.

AUTUMNAL LEAVES: *Twined.* We know of no sort of preparation, but they might be dried in warm sand or between sheets of absorbent paper, changing the sheets every few days till dry. When dry, if not of the desired colour, they may be coloured, and then coated with thin varnish.

BLACK GRAPES SENT IN A CIGAR-BOX: *No Name.* Berries badly shanked, and far from ripe.

BOOKS: *A. Hope.* We know of no separate work on the subject of garden weeds. A lecture on the subject was given at a meeting of the Royal Horticultural Society by Miss Jekyll, which may be obtainable at the office of the Society, 117, Victoria Street, Westminster.

CATERPILLAR ON PEAR-TREE FOLIAGE: *J. M.* Larvæ of the saw-fly, *Selandra atra* (of Stephens), see *Saw-flies of the Pear*, by the late Prof. J. O. Westwood, in these volumes 1848, p. 524. The Saw-flies appear in July and deposit their eggs on or in the upper side of the leaf, and in about five weeks the slug-worms arrive at full growth and appear as buff or yellow caterpillars of about $\frac{1}{2}$ inch in length, and free from all slime. In October they leave the leaves and go down into the soil, where they spin an oval, brown, silken cocoon, from which the Saw-flies come up in July the following year. Dressings of quick-lime twice or thrice repeated will kill them. Soap-suds applied with the garden-engine are very effective in getting rid of this pest. Skimming off the surface-soil and burying it a foot deep elsewhere will get rid of the cocoons. These lie beneath the surface at various depths down to 4 inches.

CATERPILLAR: *W. S.* The larva of the Privet Hawk Moth, *Sphinx ligustri*.

C. BALTET'S BOOK ON THE ART OF GRAFTING AND BUDDING: *Young Gardener.* If you have a difficulty in obtaining this book, and will let us know your name and address, we will put you in the way of obtaining a copy in good condition.

CHRYSANTHEMUM-LEAVES DISFIGURED: *J. Jackson.* No fungus disease.—*A Reader of the Gardeners' Chronicle.* The leaves are affected with the fungus *Puccinia Hieracii*, figured and described in the *Gardeners' Chronicle* for October 8, 1898, p. 269. See also our issue for September 12 last, p. 200.

COLEUS AND OTHER PLANTS: *E. S.* We have no knowledge of emanation from Coleus affecting other plants; indeed, we are sceptical concerning the action of *Humea elegans* on the leaves of Peaches or other plants. The *Humea* and Coleus have been cultivated for so many years in our gardens that their effects, if any, on plants or animals would not have escaped notice for so long a period of time.

DAHLIA ROOTS: *E. R. L.* These are best stored cool and dry like other nearly hardy tubers. Store in a shed or place where the frost is kept out. If too warm and dry the roots shrivel.

DISQUALIFICATION OF AMATEUR EXHIBITOR FOR EMPLOYING A GARDENER, IN CONTRAVENTION OF RULE IN SCHEDULE: *J. P.* We think that the disqualification was wrong, seeing that the "gardener" was an "odd" man only, doing all sorts of jobs about the garden, house, cellar, and stable-yard; moreover, he being by trade a brassfitter.

DONATION TO THE ROYAL GARDENERS' ORPHAN FUND: *W. F. C.* Received the sum of 5s., which will be forwarded to the Treasurer, as desired.

ERYTHRINA CRISTA-GALLI (CORAL-TREE): *J. C.* We do not suppose that seedlings raised from seeds sown early in the month of January would flower much, if at all, the first year.

GRAPES DISEASED: *J. T.* A bad case of infection by the Spot-fungus. Remove and burn all diseased berries, and in very bad cases the entire bunch. See answer to "E. C." in last week's *Gardeners' Chronicle*, p. 216.—*E. Seymour.* The fruit is badly affected by the Spot-fungus, often reported on in these pages of late.

IRIS ROOTS: *C. E. S.* The Iris-root is affected with a soft rot, caused by bacteria. All the soft decayed parts should be cut away, the roots should then be soaked in a 1-per-cent. solution of sulphuric acid in water for an hour.

KENTIAS DYING-OFF BELOW THE GROUND-LEVEL: *C. F. G. C.* We can only say, in the absence of all detail, "Found dead." We should like to inspect a potful of soil in which a sickly plant is still found before giving an opinion as to cause of mishap.

MILDEWED GRAPES: *Sydenham.* Cut out all infested berries, then apply dry sulphur, and keep sulphur mixed with water about the house, and paint the hot-water pipes with lime-wash into which flowers-of-sulphur have been mixed. Keep the air dry and free from excess of moisture.

NAMES OF FRUITS: *Mewsbrook.* 1 and 4, Cellini; 3, and the flat green fruit, Warner's King; the conical-angular bronzy fruit is Cornish Mother; small round Apple, Cox's Orange. We are sorry that the numbers got mixed, but doubtless our correspondent will recognise them by description given above.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*B. A.* *Clitoria ternatea*.—*G. W. S.* 1, *Calluna vulgaris*; 2 and 3, *Erica vagans*. *W. T.* *Polygonum affinis*.—*R. B.* *Phytolacca decandra*.—*B. L. C.* 1, *Dabecia (Menziesia) polifolia alba*; 2, *Dabecia (Menziesia) polifolia* (type); 3, *Calluna vulgaris alba*; 4, *Mesembryanthemum* species, send when in flower; 5, *Artemisia* species, send when in flower; 6, *Echinops commutatus*; 7, *Eryngium dichotomum*; 8, *Helenium pumilum*.—*F. G.* 1, *Thuya occidentalis*; 2, *Juniperus chinensis*; 3, *Cupressus nootkatensis*; 4, probably one of the dwarf forms of *Cupressus Lawsoniana*; 5, *Cupressus Lawsoniana*; 6, *Thuya orientalis* var.—*Coniferae.* 1, *Cupressus Lawsoniana* var. *lutea*; 2, *Thuya japonica*; 3, *Cupressus Lawsoniana* var.; 4, *Juniperus sabina*.—*V. F. P.* *Eccremocarpos scaber*; not a Swiss Alpine but Chilian creeper.—*A. D. M.* *Periploca græca*.—*W. N.* *Vanda Roxburghii*.—*J. B.*, *Gateshead.* *Salvia Horminum*.—*J. H.* *Brassavola cucullata*, often called *B. cuspidata*.—*E. B. L.* The *Cypripedium* is so much like *C. ciliolare* and *C. Curtisii* that it is not of much value.—*M. S.* The flower you send is certainly one of *Odontoglossum* × *Coradinei*. How the error you mention occurred we are at a loss to understand.—*E. W.*, *Durham.* *Cyrtanthus sanguineus*, often called *Gastronema sanguinea*. An *Amaryllid*, not a Lily.—*Ferns.* 1, *Athyrium filix-femina cristata*; 2, *Osmunda regalis cristata*; 3, *Lastrea filix-mas polydactyla*; 4, *Lastrea filix-mas cristata*; 5, *Polystichum angulare cristata*; 6, probably another crested form

of *Lastrea filix-mas*. All the specimens are imperfect.—*Hants.* The one with orange centre is the form of *Cattleya Eldorado*, sometimes called *crocata*; the other a pale *Cattleya Gaskelliana*.—*A. Hope.* *Colchicum autumnale* vars.—*W. M.* *Echeveria secunda glauca*.—*T. H.* 1, *Polygonum compactum*; 2, *Helenium autumnale grandiflorum*; 3, *Polygonum cuspidatum variegatum*; 4, next week; 5, material insufficient; 6, *Pittosporum undulatum*; 7, *Choisya ternata*; 8, *Eugenia Ugni*.

NAMES OF WILLOWS: *J. B.* 1, *Salix incana*; 2, *Salix nigricans* var.; 3, 4, 6, 7, 8, forms of *Salix vitellina*; 5, *Salix purpurea*. We do not guarantee *Salix* names from leaves alone.

NECTARINE: *W. P.* We cannot name the variety from such specimens. The probable cause of the fruits having cracked is that the roots have been afforded water immoderately after a period in which the soil was comparatively dry.

OBTAINING EMPLOYMENT AT KEW AND CHISWICK: *Earley.* Only young men are accepted in those gardens. We would advise you to advertise in these columns, the circulation of the *Gardeners' Chronicle* being large among employers of gardeners. Send to Publisher for tariff.

PEAR-LEAF: *Mot.* The work of the Slug-worm, the larva of *Selandria atra*. Frequently dust the foliage with finely-powdered quicklime, and remove the soil beneath the trees and char or bury it deeply elsewhere.

ROYAL GARDENERS' ORPHAN FUND: *T. H. S.* The gardening appointment will be inserted in the *Gardeners' Chronicle*, and the sum of 2s., kindly sent, remitted to the Treasurer of the Fund.

SEAKALE FORCING IN THREE SMALL GLASS-HOUSES: *F. J. G.* Take up the roots in November; leave them exposed to frost for a few days, then place as many of them as you choose in light soil, placed on the floor and at a few inches apart. Afford water to moisten the whole, then cover the beds with clean straw 1 foot thick, over which, before the Seakale sprouts, place tarpaulin, mats, or anything that will keep out the light. Keep the temperature under 60° and steady.

SAVOY WITH CLUBBED ROOT: *W. R. Cuerden.* See reply to *E. R.*, p. 216, in last week's *Gardeners' Chronicle*.

SEEDLING CARNATION: *E. H. M.* The white flower you describe as a "tree" variety is unusually large, measuring nearly 5 inches across. From the form of the calyx, it would appear to have some relationship with the *Souvenir de la Malmaison* section.

SULPHATE OF POTASH: *John Budden.* This is an expensive manure, and should not be employed for crops in general. You will find 2—3 oz. per square yard sufficient for your purpose. It may be scratched into the soil or given in water.

TOMATO LEAF: *W. M.* *Peronospora Lycopersici*. Use Bordeaux-mixture.

VIOLET-LEAF: *Mot.* The disfigurement is caused by *Æcidium depauperans*, which may be destroyed by washing or syringing the plant with the Bordeaux-mixture or other fungicide.

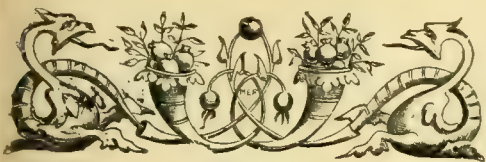
VINE-LEAVES COVERED WITH WART-LIKE GALLS: *J. Hogan.* Caused by a mite, *Cecidomyia cnicophila*. When the leaves fall naturally, gather them up and consign them to the garden furnace. The species is not common.

WINEBERRY, &c.: *W. E. B.* The small fruit is *Rubus phonicolasius*, and the chance seedling may have been derived from it, the male parent being a Raspberry.

COMMUNICATIONS RECEIVED.—*W. J. M.*—Albert F. Upstone, 35, Church Street, and 1, Market Street, Rotherham.—*J. Hughes*—J. Mertens & Co.—B. Ashton (with thanks)—*W. L. B.*—H. J. C. (next week)—*W. H. D.*—J. Sherlock (next week)—*F. H. R.*—*G. W.*—*N. Davis*—*A. D.*—*H. W. W.*—*R. A. H.*—*J. G.*—*J. J.*—*F. W.*—*J. T. Houghton*—*J. Downie*—*R. O. G.* (for Lord Hastings)—*G. H.*—*H. P.*—*S. A.*—*Lee F.*—*E. H. B.*—*Rosa*—*R. B.*—*W. M.*—*L. S.*—*A. B.*—*J. H. C.*—*G. I.*—*E. B.*—*A. J. S.*—*T. P.*—*T. S.*, *T. B.*, *W. N.*



THE CONSERVATORY IN THE ROTTERDAM ZOOLOGICAL GARDEN.



THE

Gardeners' Chronicle

No. 875.—SATURDAY, OCT. 3, 1903.

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VEGETABLES AS EXHIBITION SUBJECTS.

THE gardener who in these days would pose as an exhibitor of vegetables must be something more than a grower. He must have artistic tastes to enable him to set up his products, when he has secured them, with such skill and charm that they shall attract the eye, arrest attention, and produce in the mind of the spectator much pleasure. Probably there are those of the old school of grower who may think the chief aim of the grower should be to secure bulk—that it is absurd to aspire after beauty in such very homely and commonplace things as vegetables, and that all this display of artistic taste in setting up a collection of these products at exhibitions is nonsense. A gardener of this sort would be distinctly out of place to-day with such ideas as those here outlined; and most certainly would he be out of the race in such competitions as are those we now see at exhibitions where high-class vegetables are effectively displayed, and constitute a striking feature. Not only is it now the case that the modern methods of displaying vegetables have caused them to be regarded at shows with exceeding favour—collections often constituting objects of great beauty and arresting attention—but growers have learnt to produce subjects in which all the good features and pleasing form that mark them are clearly and well brought out. Practically, in the desire to

secure what is now held to be quality in preference to mere bulk, it has been found almost invariably that quality is indelibly associated with nice form—hence the greater attractiveness of vegetables as exhibition subjects now than was formerly the case. And the exhibitor, realising how strikingly this beauty exists, seeks to show it in each one of his productions to the best advantage. What, in setting up a collection, is better than a somewhat sloping base of fresh green Parsley? What a pleasing framework or foil does this present for the objects which rest upon it! (fig. 101). In the centre at the back is built up a single-face pyramid of some half-dozen Cauliflowers, the heads closely trimmed as just fit for table, white as snow, solid as stone, and rounded in form. On one side stands up a bundle of Leeks, the blanched stems for some 12 to 14 inches of length of pure white, each stem without spot or stain, not large in circumference, but throughout perfectly even in length and diameter; these have their green leaves slightly trimmed. On the other side is a bundle of fine Celery, the outer stem still tinted with green or red, but the inner ones perfectly blanched, and each plant having the same features. The stems are stout, firm, and, if broken, they are found to be very crisp, showing how well they are fitted for salading. Each plant is massive and heavy, for size and solidity allied to perfect blanching in Celery always mean the highest table quality. Thus we have a background. Fronting these come such pretty subjects as high-class globular Onions, of good size, perfect in form, the skins of a nut-brown tint, glossy, and entirely free from spot or blemish. They form a fine central feature, and should be so set up that the full depth of each bulb is seen. On either side come splendid long, white, and perfectly formed Parsnips, not necessarily large, but certainly symmetrical; and on the other, bright, rosy Carrots, in form absolutely perfect—Nature's own object-lesson; for man could not, did he fashion them, construct more that is perfect in outline or of greater beauty. Rich, deep-red Tomatos, of fair size, without crack, even in size and colour; deep-green pods of Peas, each well filled, yet young and fresh; pure white Turnips, round as cricket-balls and devoid of blemish; long, straight, bright-green Runner Beans, each as of a pattern carefully selected, and laid on the Parsley; handsome, evenly-sized, very clean, white Potatos; a pair of white or pale-green Marrows; or a brace of long, smooth, deep-green Cucumbers, and there you have at this season a collection of a dozen kinds that will stand first and foremost anywhere. Some of the highest skill in exhibiting is found amongst leading vegetable competitors. A. D.

PARIS.

VERSAILLES AND THE TRIANONS.

If any impartial observer should wish to compare for himself an architect's garden and that designed by a landscape gardener, he could not have a better chance of carrying out his desire than to pay a visit to Versailles and the immediately adjoining parks of the greater and of the lesser Trianon. Versailles has in front of its huge, sprawling façade a noble terrace with

bold flights of steps, and basins where mythological personages disport themselves with or without water as the case may be, where the flower-beds are planted in the same style as those in the Tuileries Gardens before mentioned, encircled by thick Box edgings, and backed up by hedges and mutilated Yews of the most formal—shall I say hideous?—character. Everywhere there are ladies and gentlemen in stone or marble, exposed to all the winds of heaven in the most incongruous attire, or, in the case of the ladies, with no attire at all. The architect would no doubt see much to admire in some of these groups of statuary, and his admiration may be shared by the layman, with the only protest that they are out of place in a garden. Looking over the terrace wall on one side, the visitor looks down upon a square enclosure in which are not tens or scores, but many hundreds of mop-headed Orange-trees of all ages and sizes—an extraordinary sight, as if the children's play-room of some giant had been emptied of its toy trees.

From this vast terrace—and it is vast this time, though the French use the word *vaste* for a garden in which the proverbial cat could be swung with difficulty—from this vast terrace an imposing sight of radiating avenues is gained, the centre being occupied by a long, narrow ribbon of turf, the *tapis vert*, beyond which fountains and basins with more mythological personages, and then a long, straight canal filled with dirty water, terminating in the distance in some unimportant architectural features.

The avenues of Limes and Elms are monotonous, but nevertheless striking, and so artfully disposed that the actual distance, which is not little, really seems greater than it is. Between these radiating avenues are (I know not how many) "bosquets"—bowers—each of a slightly different character, but mostly rigidly formal in outline, and containing more mythological personages, more gentlemen in incongruous costume, and more ladies without any.

One of these bosquets is devoted to the use of children; and still another, the "Jardin du Roi," is one of the prettiest features of the park. It is in the English style, and forms a welcome relief from the stately formality of the noble avenues. The central lawn is soft and green, and would do justice to an English garden; the soil is moist, the site having been formerly occupied by a small lake. Around this lawn are shrubby borders edged with gay Begonias, Fuchsias, Salvias, and other flowering plants. Gathered here and there are clumps of Rhododendrons intermixed with paniculate Hydrangeas, and edged with white, sweet-smelling Funkias, isolated tufts of Bamboos, Eulalias, and Pampas Grasses.

Some noble specimen trees are to be found here, notably a very fine Fern-leaved Beech, two fine deciduous Cypresses, with Corsican and other Pines—*Abies nobilis*, *Thuja gigantea*, and others. The approaching autumn has just touched the leaves of the Horse-Chestnuts, the Virgilies, the Negundos with golden-yellow, so that the whole is very charming, and shall I say English in character?

In some few cases an attempt has been made in these bosquets, and made successfully, to introduce a more picturesque style of treatment, but it is invariably spoiled by the mermaids, the intrusive gentlemen, and the undraped statues before mentioned. Here, then, we have an excellent sample of an architect's garden. The trees are merely planted to fit his design and suit his caprice. It is a garden which in one sense may be said to be, though full of plants, yet without any—grandiose, but with no sense of repose or seclusion, even in the bosquets, and where the plants have no interest and only serve a formally decorative purpose. Not a hint is afforded that the plants are full of

living interest. Every living thing is sacrificed to the architect, who uses the trees as so many stones, and the flowers as so many architectural mouldings or mosaics. Very different is the effect produced in some of the bosquets already mentioned, and at the Trianons, of which more in another communication. *The Rambler.*

(To be continued.)

PROPAGATING POTATO NORTHERN STAR.

THERE has been so much said and written about this new variety of Potato that we welcomed an invitation that reached us recently to visit several acres of growing plants on the Manor Farm at Ham. The owner of the crop, Mr. W. J. Malden, has been Superintendent of the Agricul-



FIG. 95.—POTATO PLANT OBTAINED FROM SINGLE EYE, AND AFTERWARDS "TOPPED" TO SUPPLY CUTTING SHOWN IN NEXT FIGURE.

tural section under the Royal Dublin Society, and principal of several agricultural colleges. The invitation stated that such was the vigour of Northern Star the plants had remained perfectly green, although the variety Up-to-Date growing along one side and end of the crop had quite succumbed to disease. The case was not overstated, for on September 11, the day following a disastrous gale of wind, the conditions were exactly as described. Upon inquiry we were told that the plants of Northern Star were sprayed with a solution of copper, &c., ten days previously. The Up-to-Date variety belonged to another proprietor, but were not separated by the width of a single yard, and had been left to themselves entirely. The rows were quite overgrown with weeds, and the Potato haulms were black. The neglect, however, of the one crop, and the persistent attention given to the other, were not sufficient to explain the good condition of Northern Star, because the Up-to-Dates were very badly infested with disease before any spray



FIG. 96.—ROOTED CUTTING OF POTATO.

was afforded Northern Star; yet this variety remained clean and strikingly healthy in appearance. It is safe to assume that thousands of spores were blown on to the foliage but were unable to vegetate.

A root of Northern Star that was turned out had eighteen tubers, which at that date were little more than half grown, but assuming that they have developed well since, the crop will be a heavy one. It appears that the variety is very sportive at present, or that the seed has been inadvertently mixed, for Mr. Malden had been compelled to "rogue" his plants several times, although the seed-tubers came direct from the raiser, Mr. Findlay, of Markinch, N.B. The tubers of Northern Star have a white skin and white flesh, the eyes are situated more particu-



FIG. 97.—A SPROUTED TUBER.

larly at either end, and when the tubers are lifted the embryo growths in the eyes are pink in colour. This latter peculiarity is important, being a good means of identification. The haulm is very strong and erect, the leaflets flat, rough, and exceedingly thick; whilst the blossom of Up-to-Date is violet-coloured, that of Northern Star is white or very faint cream-colour, and is not produced in much quantity. The flavour of the tubers when cooked is described as excellent, but it is admitted that Up-to-Date possesses little or no flavour.

ECONOMY IN SEED-TUBERS.

The tubers were so dear to purchase last season that everyone who had purchased some were



FIG. 98.—A TUBER THAT HAS BEGUN TO RUN.

anxious to make the most of them. All Mr. Malden's plants were obtained from single eyes. The accompanying illustrations, prepared from Mr. Malden's photographs, will remind the gardener how easy it is to increase the stock of a new variety of Potato in a short time. In fig. 95 is shown a plant obtained from a single eye, which, when it had grown a few inches high, was "topped," and the top, inserted just as one would insert a Pelargonium cutting, is shown rooted in fig. 96. Then in fig. 97 is a tuber that has been allowed to sprout; each little sprout is taken off and treated as a cutting, and the same "eye" usually develops several such cuttings. In fig. 98 is shown a tuber that has commenced to "run" in the clump. These growths are not thrown away, but are cut up into little pieces that will root and form plants. By raising plants



FIG. 99.—JERUSALEM ARTICHOKE, SHOWING THE NORMAL POSITION OF THE TUBERS.

from single eyes, Mr. Malden was able to plant one acre of land with $1\frac{1}{2}$ cwt. of tubers. They were planted in rows 32 inches asunder, and 30 inches was allowed between each "set" in the rows. This is the minimum amount of space that should be afforded this unusually robust variety. The manure used per acre was as follows: 14 loads of farmyard manure, 1 cwt. of sulphate of ammonia, 1 cwt. muriate of potash, and 5 cwt. superphosphate. The tubers were earthed up uncommonly high, another excellent method by which to repel disease.

Mr. Malden, whose remarks in the *Journal of the Board of Agriculture* were quoted on p. 218 of our last issue by "A. D. H.," thoroughly believes that a seedling variety of Potato possesses during the first sixteen or twenty years of its existence a degree of vigour that enables it to resist disease and to crop abundantly, but that afterwards it loses such vigour gradually until it becomes quite an unprofitable crop. He believes in Northern Star through and through, and thinks that those growers who get a stock of it in the next few years will increase the yield of their Potato crop by one-third or even one-half of the whole.

It may surprise many of us to learn that a Potato-set obtained from a mere cutting, if planted-out sufficiently early, is capable of yielding as heavy a crop of tubers as a plant grown from a whole or divided tuber. Mr. Malden has found it so; and the following letter to the *Gardeners' Chronicle* from Mr. J. Sherlock, Fowley Gardens, Liphook, Hants, bears the same testimony:—

"Last spring my employer, E. A. Lee, Esq., purchased 2 lb. of tubers of Northern Star from a Yorkshire grower, which came packed in wadding like so many Peaches, with a pamphlet of instructions, which I followed as nearly as possible. I put them in a warm-house, in a box containing some soil, and as the shoots appeared above-ground I took off the cuttings, 200 in all, and rooted them. I planted them in the open ground on May 26, and have now (September 22) lifted the enormous quantity of 420 lb. from the 2 lb. of Potatoes. Is this a record crop from so small a quantity? I may add that I obtained the largest Potatoes from the 'cuttings,' some of them turning the scales at $1\frac{1}{2}$ lb. each, and there are plenty of $\frac{3}{4}$ and $\frac{1}{2}$ lb. in weight."

It scarcely needs to be pointed out that if such compound multiplication is contemplated, it is

necessary to commence in March at the latest, because the rooted cuttings should be nice little plants in pots for planting out in May. Even when the division is not carried beyond the single eye system, it is necessary to establish them in pots, for single eyes do not succeed so well if put directly into the open ground. Every plant in Mr. Malden's crop of several acres was first established in a pot. This was done in an improvised frame, erected on the south side of a thick, high hedge. During the night a canvas was drawn over them, and in the daytime gene-

rally the plants were fully exposed. No glass was used.

Evidence of another kind respecting Northern Star Potato was furnished by Mr. E. S. Wiles, The Rookery gardens, Downe, Kent, a well-known Potato specialist, who brought a tuber very badly diseased, and stated that in his garden the variety was attacked this season as badly or worse than any other. This grower considered the variety Edward VII. to be of greater value. His soil is a heavy loam or clay, over a sub-soil of flint and chalk. R. H. P.

HOME CORRESPONDENCE.

PEACH AND NECTARINE-TREES.—Owing to failure of crop and the wet and sunless weather experienced this season, Peach and other stone-fruit-trees will have made strong coarse growth, which will require much attention on the part of the gardener in order to get the shoots ripened properly. Young trees planted but a few years may need lifting and replanting at an early part of the autumn, not shortening the roots too much, but carefully lifting and cutting them back to within a reasonable distance from the stem, the wounds being cut smoothly, and the trees replanted with the roots at various depths. If the soil is sweet and good, the only addition required may consist of lime-rubbish, wood-ashes, and friable soil mixed with the staple, with a good sprinkling about the roots. In the case of old trees the shoots should be thinned so as to admit the fullest amount of sunlight, and all which have borne fruit (if not wanted) should be removed. If this be not carried out the chances of a good crop of fruit next year will be poor. If young trees are to be planted this season, let the borders be thoroughly examined and the nature and condition of the subsoil ascertained, a suitable soil and a dry subsoil being of great importance for Peach and Nectarine trees. In the colder parts of the country the borders should be raised several inches above the surrounding level, the depth of soil, however, need not exceed

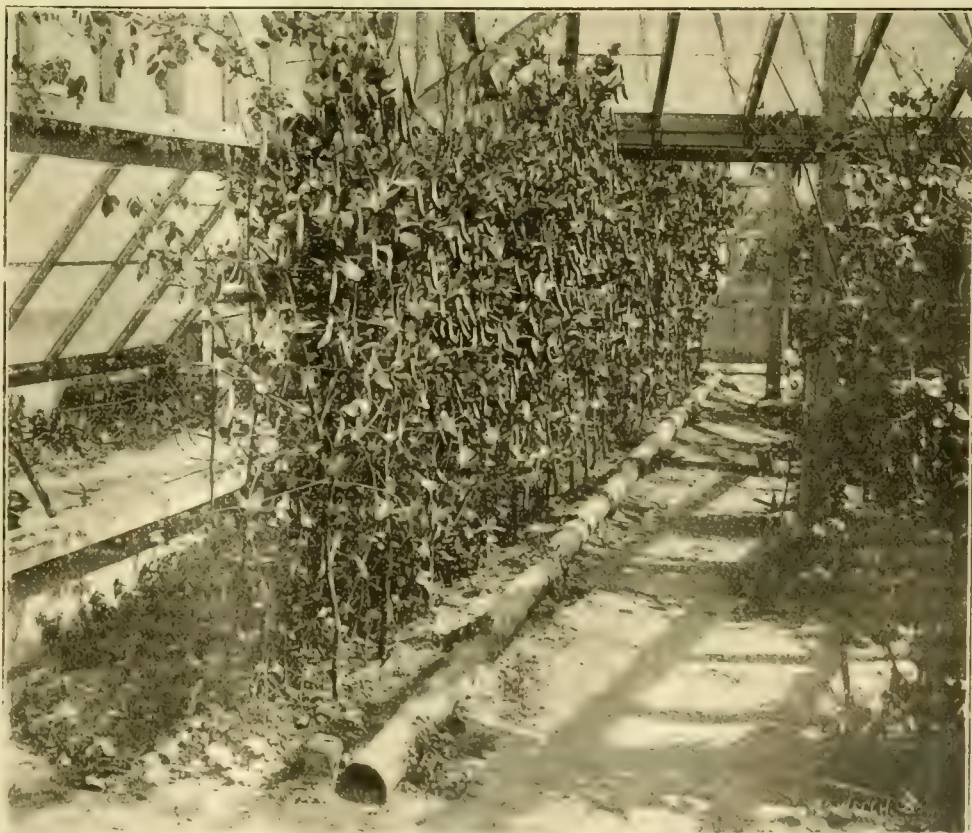


FIG. 100.—THE NEW PEA, EDWIN BECKETT, GROWING IN A HOUSE AT FRAMFIELD IN MAY

2½ feet. The best kind of soil for the Peach is loam of moderately heavy texture, together with lime rubbish and charred earth in considerable quantity, and a small quantity of decayed manure. The soil should be made rather firm when planting, and the trees placed 6 inches distant from the wall so to allow for the thickening of the stems. From tree to tree a space of not less than 18 feet should be afforded. Varieties are many, and it is unfortunate that most of the best ones ripen at about one time, but for affording a long supply the following will be found useful:—Waterloo, Hale's Early, River's Early York, Early Grosse Mignonne, Goshawk, Stirling Castle, Dymond, Bellegarde, Crimson Galande, Barrington, Sea Eagle, Nectarine Peach, and Princess of Wales—this last should be given a good aspect. Of Nectarines, take Lord Napier, Elruge, Pitmaston Orange, Humboldt, and Pineapple. *H. Markham, Wrotham Park Gardens.*

WHITE TOAD-FLAX (LINARIA CYMBALARIA ALBA).—We note your correspondent's remarks on p. 225 of the *Gardeners' Chronicle*, and beg to say that we had for years a large patch of this plant on the north side of our rockery when at Tottenham. It grew quite as freely as the common one from both roots and seeds, but unfortunately we lost the stock in moving from Tottenham to Feltham. We have now a white-flowered variety of *Linaria pallida*, which we believe to be very scarce. *Thomas S. Ware (1902), Ltd.*

—Regarding your request anent the white variety of *Linaria cymbalaria*, I beg to state that we have cultivated this variety for several years. *H. Henkel, O.H., Darmstadt.*

—In reply to the query respecting the white variety of Ivy-leaved Toad-Flax, I wish to state that, whilst walking through the little hamlet of Lee on the North Devon coast last summer, I observed a patch of white-flowered Ivy-leaved Toad-Flax growing on an old wall in company with plants of the normal colour. From the well-known habit this species has of pushing its seed-capsules into the crannies of the wall on which it may be growing, I have no doubt that the plants of this white variety have by now considerably increased in numbers. We have the same variety growing here from seed sent by the late Mr. Thompson, of Ipswich. *John W. Odell, The Grove, Stanmore.*

—In response to your correspondent's inquiry concerning the white-flowered variety of *Linaria cymbalaria* (Mill), I have to state that I have grown this plant for the past fourteen years, but I have always regarded this variety as being of a more tender constitution and delicate habit of growth than the normal type, hence I have found the white form rather difficult to keep or propagate; and this may account for its comparative rarity. Should your correspondent at Aylesford care to pay expense of transit or postage of a small plant of this, I will with pleasure forward one on receipt of advice to that effect. *E. F. S.*

DAPHNE BLAGAYANA.—No one who has seen a mass on a rocky bed or a large plant of this species depending from the face of a low rock will fail to desire to include it among the cherished flowers of his garden. While this *Daphne* is eminently suited for the rock-garden, it is not one whit less adapted for the flower-garden, if a suitable position be adopted; and a bed on the grass would be delightful in spring, when the evergreen leaves are simply the groundwork for the clusters of tubular white flowers. It is seldom seen thus, but all that it requires is a slightly raised bed of loam, sand, and peat, in a rather shady place, and to have the shoots pegged down annually after flowering, or, better still, held down by good-sized stones. In a short time the growths will quite cover the stones and render them invisible. One of the finest masses of this *Daphne* I have ever seen was at that home of so many good and carefully grown plants—Glasnevin—where a great mass of *Daphne Blagayana* is in its season redolent with sweetness and most attractive when in flower. Its natural height is from 3 to 6 inches, and its rather straggling growth lends itself well to the method of pegging down or fastening down with stones already noticed. It may also be mentioned that it dislikes excessive drought, and that it grows splendidly by

the margin of a bog, where its roots can have access to the moisture without being actually in it. The ordinary blooming time is April and May. *S. Arnott, Carsethorn-by-Dumfries, N.B.* [The Glasnevin plants were illustrated in these pages on October 25 last year. *Ed.*]

CHESSWOOD, WORTHING.—The owner, Mr. George Beer, who is fast approaching four-score years, is still in working trim and as full of enthusiasm as ever. During a recent visit, the nursery recalled to me the days of my own experience at Worthing, dating from 1872. There is also special interest centred in this establishment, in that the first block system of vine-planting and Grape-growing was inaugurated here. Again, tanks above ground, inside, were also some of the original features of this old-established nursery, Mr. Beer rightly claiming that water under this system, somewhat warmed, is far better than a supply from colder sources. The Gros Colmar (late houses, with fuel burning!)—growers please note, two houses in block) are good and furnish a particularly useful market crop. A good 150-foot span of Alicante is also very promising. Lastly is the 180-foot span, running east to west, 30 feet wide, put up some twenty-five years ago. This house then caused much comment, not only in the Worthing district, but elsewhere, not only on account of its dimensions, but also for its aspect. This viney, with borders outside, the vines planted out, the front or sides of the houses being formed of concrete walls, is to-day very successful. The plants on the east side are of Alicante, which, while late, was a full crop. It is, however, to the other side of this house to which I specially call attention. Here we have a mixture of Gros Colmar and Muscats, with an occasional rod of Gros Guillaume. No order was observed in the original planting, but a better crop of Grapes would be hard to find. Gros Colmar is bearing a heavy, fine-berried, good bunch crop—on double rods chiefly. Muscats—single rods, on which I counted fifty bunches—are, indeed, a good market crop, with the least possible sign of shanking. The rainy season here has been of great assistance to Mr. Beer, he having had less water to afford the borders. Gros Guillaume, or, as it is dubbed for short, Barbarossa, pleases the grower not only in the crop but by its flavour. He discards Gros Maroc from the other houses on the score of want of flavour—this too from a typical market grower. The piping is very evenly distributed, six rows singly, and with Vines a quarter of a century old there is still much to learn from this house and its crop. I must not fail to note one span-house devoted to Muscats that will just about be ready by Christmas, a full crop of useful size bunches, with good berries, the set being very regular. *Stephen Castle.*

CLIMBERS FOR PILLARS, ETC.—In order to improve the appearance of a greenhouse by the use of suitable climbing plants, there is usually no need for an elaborate apparatus for supporting the plants; for much may be done with pieces of copper wire, or even string, drawn under the rafters or over the doors. Climbing plants do much better when grown in such a manner than they do if twisted around sticks. I will mention a few species which can be grown in a warm greenhouse, *Cestrum Newellii*, *C. elegans*, *Plumbago capensis*, *P. rosea*, *Clianthus puniceus*, *Acacia leprosa*, *Myrsiphillum reticulatum*, *M. asparagoides*, very useful for cutting from for decorative purposes; *Kennedyia nigricans*, a plant of very free habit and easy cultivation, producing deep purple flowers, almost black; *Hardenbergia Comptoniana*, *Cobaea scandens*, *Asparagus umbellatus*, *Bougainvillea glabra* and *B. Sanderiana*, and *Streptosolen Jamesoni*. The last-named species, when grown for several years in a big pot and afforded a good dressing of a suitable fertiliser occasionally, will make a most effective display. I remember last year seeing a perfect specimen at Rood Ashton, Wilts, which, having been grown in this manner, presented a mass of flower. Then there are *Passifloras* and *Tacsonias* for the roof, and *Fuchsias* and *Ivyleaf Pelargoniums* for clothing pillars. Roses make ideal pillar and rafter plants, especially the variety *Niphetos*; but no list of climbers would be perfect without red and white varieties of *Lapageria*, the shoots of which should

be regulated and trained as growth proceeds to prevent them becoming entwined together. *Lapagerias* require much water during dry weather, provided they have plenty of roots, but the greatest care is necessary if the roots be few or in poor condition. The *Jasmines* are also suitable for the stove or warmer houses, and *Allamanda* and *Stephanotis floribunda*. *Clerodendrons* flower most freely when trained to the rafters, and *Cissus discolor* produces a charming effect as a trailer. The species mentioned above, together with many others, may be grown either in pots, tubs, or borders. Care should be taken to prevent climbing plants becoming so dense as to injure plants which grow beneath their shade. They require to be kept neatly tied in and trained to their allotted space. *W. A. Cook.*

HELIANTHEMUM ALGARVIENSE.—Much confusion exists between the Sun Roses or *Helianthemums* and the Rock Roses or *Cistuses*, the subject of this note being for years grown as *Cistus algarvensis*, and being still sold by nurserymen under that name. In the *Botanical Magazine* it was figured under the latter name, and the synonym *Helianthemum algarviense* attached. However the authorities now state that no true *Cistus* bears yellow flowers. This pretty Sun Rose is a native of Portugal, but is quite hardy in porous soil in warm nooks in the south-west. The flowers are bright yellow colour, with a deep maroon blotch at the base of the petals, and are slightly over an inch in diameter. It is perhaps a trifle inferior in decorative value to *H. formosus*, which bears larger blossoms of rather a brighter yellow, with similar crimson-maroon blotches at the base of the petals. *H. algarviense* was sent to me in mistake for *H. formosus*, but I am glad to have it, as it has formed a neat little bush about 2 feet by 2 feet, and has been in bloom for many weeks. Its flowers, like those of the rest of its family, are very fugitive; but they are produced in such rapid succession that the plant is never flowerless. *S. W. Fitzherbert, South Devon.*

A RESEARCH STATION AT WISLEY.—I have just noted in the *Gardeners' Chronicle* the excellent gift by Sir T. Hanbury of Mr. G. Wilson's place at Weybridge. What a splendid idea! I hope the Royal Horticultural Society will keep the present garden intact as it is very beautiful. "Rothamsted" is famous for agricultural experiments, chiefly chemical, but no horticultural research or pathology is undertaken there. My idea is that "Wisley" should be a horticultural research station, to give advice to Fellows of the Society, and perhaps others. The Scientific Committee of the Royal Horticultural Society could superintend, and a good botanist, a pathologist, should be in charge of that department, leaving the curator free to attend to practical matters. A research laboratory, such as might easily be constructed at Wisley, with a garden to work in, would be making this new possession of the Royal Horticultural Society both useful and ornamental. *Ceylon.*

LAPAGERIA NASH COURT VARIETY.—I send a spray of *Lapageria Nash Court* variety, taken from a plant which has this year made growths 27 feet in length, and is now flowering profusely. *S. Nash, Head Gardener, Kinloch Castle, Rum, by Oban, N.B.* [A very fine spray, abundantly flowered. *Ed.*]

AGARICUS ELVENSIS.—If this species has only been previously recorded from the Midlands, near Neasden, and at Holloway, as stated in the *Gardeners' Chronicle* leader, p. 208, it is an extraordinary thing that it has been known as *elvensis* B. and Br. for forty years. "Elvensis," from the banks of the river Elwy in North Wales. *W. G. Smith.*

HUMEA ELEGANS AND PEACH-LEAVES.—It seems to me a singular thing to read of *Humeas* credited with injuring Peach-leaves. I have had plants for two or three months standing close to some Peach-trees trained on a wall without observing the slightest injury being done. The plants certainly have a peculiar odour, which some persons like, and will have some specimens of it grown every year. It is a useful plant when in flower for standing amongst others in the conservatory. *A. J. Long, gr., Wyfold Court.*



FIG. 101.—MR. J. GIBSON'S STAND OF VEGETABLES, AWARDED FIRST PRIZE AT READING. (SEE P. 233.)

PLANT NOTES.

KNIPHOFIA ERECTA.

SINCE writing my note on the above-named plant and its reversion to the type form which had taken place both in my own garden and also in that of the French nurseryman from whom I had received it, I have heard from Monsieur

Charles Molin, of Lyons, to assure me that in his garden the plant has not reverted, but continued quite true and constant. In proof of this statement he sends me three spikes which certainly show the accuracy of his assertion, as all the pips on them are perfectly erect. The colour is a good clear red and the plant is a most curious and interesting addition to this beautiful family.

I hope to see it bloom in true character in my garden next year. My note appeared on page 154 of your issue of August 29. W. E. Gumbleton.

KNIPHOFIA HYB. TRIUMPH (HORT. LEICHTLIN).

The above-named plant is quite one of the most distinct and beautiful of its numerous family, and well deserves the name given to it by the

well-known and distinguished raiser and hybridist from whom I received it some four or more years ago. Although it has bloomed regularly about this time each year I have had it, it has never been at all so fine as it is this year, having responded amply to generous treatment in the spring in the way of manure placed under the clump after carefully lifting it without disturbing or dividing it. My plant has produced four bloom-stems, two of which each bear three flower-spikes, and the other two two heads each. It might therefore be correctly named *K. trifida* or *tristachya*. The colour of the flowers is a bright, clear apricot-yellow, with orange stamens protruding. The height of the two trifid stems is just over 4 feet. *W. E. Gumbleton.*

MUSCAT GRAPES AT LONGLEAT.

It is many years since the fine range of vineries at Longleat was erected, the borders made, and Vines planted by Mr. Wm. Taylor, a former gardener; but though the Vines have for so long a period matured their crops of high-class fruit, there seems no diminution of vigour or fruiting capacity. Probably forty years measures the space of time over which these have borne their annual burden, which speaks well both for the construction of the borders and their management by successive gardeners since Taylor's time. The late Mr. Pratt added a new lustre to their already historic career by his successes at the many great exhibitions which he attended during a portion of the time he had charge of the gardens. Exhibiting, however, was allowed to lapse, and has not since been renewed, though under Mr. Gandy's skilful treatment the Grapes might still take a leading place at exhibitions. The division in which the Muscats are grown is 80 feet in length, and in width 30 feet; and the vines form a fine picture with their golden clusters within a short distance of the eye of the beholder. Though the roof and ventilating-lantern are carried up to a good height and angle, the Vintrellis is so arranged that the bunches may be reached for thinning and cutting without having to make use of tall steps. This arrangement was purposely made by Mr. Taylor, so that ample space should exist between the glass and the Vines. No scalding of the foliage ever occurs, and no need exists for tying down the shoots in spring until the growth has extended to its limit, and they have flowered and set their berries. Thus a great saving of time is effected. No danger of scalded leaves occurs by reason of their contact with the glass, and the bunches are well elevated to catch the morning sunrays, and the air meets with no obstruction in its passage through the winery. The ventilation provided is perfect and easily adjusted, thus conditions are afforded which, given good treatment, will and do give splendid results. Mr. Gandy has been in charge but a few seasons, but evidence is not wanting in the present crop of Muscats and later Grapes to show that he is not less a master in the art of Grape-culture than his predecessors. A division that formerly accommodated and produced splendid Black Hamburgs is now devoted to decorative plants for use in the mansion. By a great many visitors this is considered nothing short of a loss to the prestige of the garden, necessary though it may be, for the complete range formed for many years an unique example of high-class Grape-growing. The complete range measures, I believe, 229 feet in length, and is divided into three compartments, and this great space was furnished by twelve Vines only, trained on the extension principle. Rods from either side are made to furnish the whole span, and the permanent Vines occupied the four corners of each house, the main rod extending along the foot of the roof, and

others radiating from this at convenient distances apart, extend to and reach the opposite side of the structure.

The Muscat of Alexandria Grapes always set and colour perfectly; the berries are large and free from the blemishes often seen in this desirable variety. The soil of Longleat is naturally of a somewhat heavy nature, requiring the careful application of water, though it might be said in favour of the borders that they are elevated almost or quite their own depth above the natural level of the ground. Spacious though the borders are, it was discovered by the late Mr. Pratt, that the roots had penetrated the side walls, and gone beyond into the vegetable quarters. These roots were severed by opening a trench on the outside, and for a time this drastic operation had an influence clearly indicated in the following and succeeding crops. The Vines ultimately assumed their natural progress, and have for many years now produced their golden clusters that have afforded delight to many who make a pilgrimage to the gardens at Longleat. *W. S.*

MARKET GARDENING NOTES.

THE prospects of the late Grape season is an important matter at about this date. Having observed large quantities in several establishments I am able to form an estimate from the market man's point of view. In every instance where the Vine-roots are outside the vineries the growers are unanimous in their opinion that the late heavy rains have benefited the Vines of most varieties and the bunches generally, with the exception perhaps of Canon Hall Muscat. Dealing with this excellent market Grape, I find more than the usual quantity of green lateral shoots, which will not get matured, and there will be a difficulty in obtaining plump mature buds to which to prune. All will know who have grown this Grape what ill-ripened buds mean—too often these refuse to start with the season, and unless there are breaks from the old spurs there is a blank space. The cool sunless summer and heavy rainfall are accountable for this defect. Grapes coming on such shoots do not keep, hence the sooner the bunches are cut the better, after clearing out the shanked berries. The crop of Canon Hall is not so heavy as that of last year, albeit there are many fine bunches on many of the Vines. Two growers I am acquainted with are even now marketing in good style. Certainly in vineries having no outside borders, the berries of Black Alicante colour and the bunches are finer, and yet the thinning was thought to be about the same as in those growing in outside borders. A firm bunch of Alicante is always liked in the market, as well as size in the berries. I notice in some instances that the berries are bursting from being too tight in the bunches. The bunches of Gros Colmar are much more freely thinned, but in all late vineries the fruit is still of a green colour. The foliage is also, however, green; and there is less red-spider on the foliage than usual. Good colouring and finish may be looked for with confidence. Instances are not wanting where the heavy rains on outside borders have caused the berries to crack, which is a mishap that happens at the colder ends of the house just before the berries swell finally. In no market garden are these varieties of Grapes grown without fire-heat. *Stephen Castle.*

PUBLICATIONS RECEIVED.—*Notes sur quelques Apocynacées lactifères de la Flore du Congo.* Par Emile de Wildeman, Conservateur au Jardin Botanique de l'Etat, Brussels. Published by MM. Spineux et Cie., 62, Montagne de la Cour.—*The Amateur's Garden Annual*, for 1903. By Samuel Dobie & Son, Heathfield Gardens, near Chester.

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bickton, Budleigh Salterton, Devonshire.

Liliums.—Place in a sheltered sunny position in the open air *L. lancifolium* and *L. auratum* as the bulbs pass out of flower, applying water in moderate quantity until the foliage and stems mature, and then protect from the weather and keep the soil dry till they are repotted—that is, about the middle of the month of November. Bulbs of *L. longiflorum* var. *Harrisii*, if required in flower at an early date, should be potted up when they come to hand, placing one bulb in a large 32, or three in a 24-sized pot, leaving space for a top-dressing of soil and manure when the stems are half grown up. Employ for this bulb loam rather more than half, the other part consisting of flaky leaf-soil and rough peat, together with sharp sand and a small quantity of charcoal. It is well to place a small quantity of sand under each bulb, and cover the bulbs with 1½ inch of soil. Let the pot stand in a cold frame or pit, covering and surrounding the pot with cocoa-nut fibre, and affording no water before the bulbs push up their stems.

Gladiolus.—The early-flowering varieties so useful for flowering in pots, if brought on gently, —viz., *The Bride* (*Colvilli alba*, a pure white variety), *delicatissima*, *General Scott*, and *Peach Blossom*, should be potted in loam, leaf-soil, with a small quantity of rotten manure, and a sprinkling of sand. Place six corms in a small 32-pot, and treat similarly to Lilies.

Ixias respond to the same kind of treatment.

Conservatory and Greenhouse.—Fuchsias, Begonias, Celosias, Humeas, Cannas, and Coleus, having by this date lost most of their decorative value, should be removed, and these structures re-arranged; but before doing this, the climbing plants on the roof should have the growths thinned, and the necessary cleansing of the plants and glass carried out, and shading materials removed. There will be no lack of decorative material to take the place of those removed if the instructions given in these calendars from time to time have been carefully carried out. In arranging plants at this date let ample space be afforded each so that light and air may reach them, the foliage and flowers being after this date very easily injured by damp. The plants of Fuchsia, Canna, and Begonia should be placed in a sunny spot out-of-doors until the first frosts occur, when they should be stored away for the winter.

Unheated Frames.—These are often utilised during the summer months for the cultivation of *Plumbago rosea*, *Eranthemum pulchellum*, *Begonia Gloire de Lorraine*, *Reinwardtia trigynum*, &c., which should now be cleansed and placed in the intermediate house or pit, which is kept at about 60° at night.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

French Beans.—Late sowings on south borders will continue in bearing for some time longer if frames or temporary lights be placed over them, and mats or litter be used at night to prevent an undue lowering of the temperature. Keep the pods closely picked where no protection is applied, as the first frost now may ruin the plants. Beans may be kept fresh and good for some time to come if laid on a cool floor. Plants of French Beans growing in pots or beds in heated pits should be syringed freely in bright weather, and the pits closed early, but afforded air in abundance by day in favourable weather. Make another sowing in heat of not less than 60°, and as soon as the plants come above the soil place the pots near to the light.

Vegetable Marrows.—Let every fruit be taken as soon as large enough, and store them for future use in a cellar or other cool place. The plants may be kept in a bearing condition for some time

longer if frame lights are available for placing over them, or a temporary framework made and covered with oiled canvas, &c., for use on cold nights.

Cauliflowers.—Examine the beds of Cauliflowers, breaking the larger leaves over the curds of those fit for consumption, which will suffice to ward off slight frosts and rain. If the plants are turning in faster than they can be consumed, lift the more forward ones, or those about the size of a penny piece, with a good ball of earth attached, in cold pits or in an open shed. Cauliflower plants may be laid-in up to the lower leaves in a slanting position in some sheltered spot and covered with mats or litter in the event of frost.

Carrots.—The main crop of roots should at about this date be lifted and stored away in moderately dry earth or sand in the root-house, or stacked against a wall in the open with soil or sand between them, and secured against frost with litter, &c. Thin out to a few inches apart the later sowings in pits and frames, and apply fresh soot occasionally between the plants. Close the frames early in the afternoon so as to hasten the growth of the plants.

Beetroots, &c., should be lifted, the leaves twisted off, and the roots stored in the same manner as Carrots, care being taken not to damage the main root in any way. Celeriac should be lifted, the chief leaves trimmed off, but leaving the central leaves intact, and be bedded in damp soil in banks or on the flat in a cool light cellar or cold pit. It should be encouraged to make slight growth.

General Remarks.—Ply the hoe among late-sown crops, and clear off large weeds and the remains of crops, and all decaying leaves from Brussels-Sprouts, &c. There is scarcely anything more valuable generally in the kitchen-garden than the ashes from garden-refuse, and much of this collected in large gardens should be burnt in a smother-fire, the ashes being occasionally collected, sifted, and put under cover. Collect long stable-litter and bracken for protective material, and store when dry under cover or make a stack and thatch it. On wet days look over the Potatoes in store.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Border Carnations.—Those layers which were the earliest made, being sufficiently well rooted, may be severed from the mother-plants, and planted where it is intended they should flower. Planting the layers is a matter which requires care in the performance, for whilst firm planting aids success, the tenderness of the newly-formed roots renders them liable to be broken off by pressure carelessly applied. The beds having been prepared as advised in an earlier Calendar, the layers should be planted at from 10 inches to 15 inches apart, robust-growing varieties being put at the greater distance, especially in gardens in which Carnations are successfully grown. The plants set out at this date will form numerous roots, and become established before the winter begins, and my experience has taught me that this method is superior to that of potting the layers and keeping them under glass till the spring, and then planting them in the open. Only in low-lying districts or where smoky fogs are prevalent is it necessary to put any portion of the stock of border Carnations under glass,

Climbers.—Many kinds of climbers may be planted with advantage at this season—namely, Ampelopsis in variety, Ivies, Wistarias, Aristolochia Sipho, Polygonum baldschuanicum (a much over-rated plant, which had a boom through being seen in good form during one or two hot seasons a few years ago, but which in my opinion is only suited, as a flowering plant, for very warm situations), the ornamental-leaved Vines, and Clematis. Roses may well be left till a later date; as they have not yet ceased to grow. Where there is plenty of scope, the aspect on which to plant is an important point, more particularly in regard to Clematis, which, if they are planted on the north side of a pergola, pillar, or whatever support may be provided for them, are not nearly so liable to die off. Bright sunshine may be of service to the top growth, but it should not be

allowed to strike the lower parts of the stems. Wistarias, Roses, Aristolochia, and Vitis, on the other hand, should be fully exposed to sunshine in order that the wood may become matured.

Lifting Bulbs and Corms.—The early-flowering Gladiolus, Tigridias, and Galtonias, being now in a mature condition, are ready for being lifted preparatory to storing them. Tigridias need lifting in the colder parts of the country, otherwise injury from frost may occur; and I find that the other plants mentioned flower the better for being afforded a season of rest in a dry place.

Sedum caruleum.—I have found this pretty little annual Stonecrop very useful for covering bare ground in the rockery in which early-flowering Irises, Tulips, Chionodoxa, and Scillas are planted. It is a plant readily raised from seeds, and makes an excellent covering for the ground without detriment to the bulbs lying beneath. The flowering season of the plant is said to be July, but I find that it flowers continuously after that time; and its pretty star-like pale-blue flowers and neat leaves and stems afford pleasing effects.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Bush fruits.—Land to be planted with fruit bushes during the present month or early in November should now be prepared by bastard-trenching, adding a liberal supply of half-decayed farmyard-manure, which should be worked into the bottom spit as the work proceeds. Do not wait for the leaves to fall before planting Red and Black Currants, the soil being so moist that there is nothing to fear, and the roots will take hold of the soil before severe frost occurs. Take care in the case of Black Currants to obtain the bushes from a stock which is free from the Currant-bud mite. It is good practice to plant a number of young bushes every year and to destroy a like number of old ones that have become less productive. The finest fruit is obtained from young bushes.

Gathering and Storing Fruit.—Such varieties as William's Bon Chrétien, Beurré d'Amanlis, Souvenir du Congrès, Madame Treyrie, Triomphe de Vienne, Beurré Hardy and others are fast ripening, and the fruits should be examined every few days, gathering only those that will part freely from the spurs when slightly raised. Pears being such a poor crop this season, those who have a few fruits should take every measure to prolong the supply as far as possible. Late varieties, such as Olivier des Serres, Winter Nelis, and Duchesse de Bordeaux, should be protected by hanging small-meshed netting in front of the trees if they are growing against a wall, or the tomtits will be sure to peck them. Should appearances indicate sharp frost, afford the trees a covering of scrim canvas at night, removing it in the morning. Unless these late Pears are allowed to hang until they will part freely from the branches they will be unfit for dessert. Take advantage of fine days to gather all Apples as fast as they ripen. Such late varieties as Sturmer Pippin, Court Pendu Plat, and Wellington should be allowed to remain on the trees until quite ripe.

FRUITS UNDER GLASS.

By T. H. C.

Peaches and Nectarines.—With the exception of trees growing in unheated houses, the Peach season is now at an end; and preparations have to be made to put the earliest forcing-houses into good order. Assuming the forcing of the trees in previous years was begun in November or December, and the varieties are early ones of good quality, they may be pruned as soon as the leaves fall or part readily from the shoots. The pruning will be slight, provided the shoots which bore fruits were removed in early summer and new shoots trained in their places. Let the pruning be so carried out as to obtain fruit-bearing shoots over all parts of the trees, cutting back to half or three-quarters of their length, and always to a wood-bud, all fairly strong shoots not required for further extension, and laying them in from about 4 to 6 inches apart over the trellis-wires. Having

finished the pruning, cleanse the house in every part, washing the woodwork with soap-and-water and the glass with water only, and finish off by coating the walls with a wash made of fresh quicklime. Then cleanse the trees with an insecticide, which brush well into the crevices of the bark. Scrape the loose surface soil off the borders, lightly point them over if roots are numerous; at the same time afford a dressing of Thomson's Vine-manure or Le Fruitier, and if necessary a heavy application of water. Follow this with a top-dressing 3 inches deep of rich loam, to each wheelbarrow-load of which add a 6-inch potful of bone-meal and two shovelfuls of mortar-rubble and charred garden refuse, less or more according to the texture of the loam, and mulch the border with decayed farmyard or spent Mushroom-bed manure. Let the windows or ventilators remain wide open day and night till the trees are started.

Succession Peach Houses.—Trees exhibiting signs of weakness should be examined as to the state of their roots, and if weakness is found to be due to an unwholesome or improper soil let the latter be removed from among the roots, substituting for it a compost like that recommended for top-dressing the border, or lift and replant. Make sure that the borders are well drained, and the roots near to the surface. A border need not be deeper than 30 inches, exclusive of drainage. Trees growing strongly at the expense of fruitfulness may be lifted and replanted just before the leaves begin to fall, at which time coarse roots may be cut back. The fibrous roots should be spread out at different levels, and the planting done firmly. Apply water and then a mulch, and in bright weather syringe the foliage three times daily. The proper ripening of the shoots in the latest houses should be matured by keeping the air dry and affording artificial heat. The beginning of the month of November is a suitable time for planting Peach trees under glass, and at the present time the loam may be got in readiness and the borders prepared, it being more profitable to plant afresh than to try to improve worn-out or diseased trees.

Winter Tomatoes.—Let the plants for winter-fruiting be potted into 10-inch pots, and if possible afford them a place at the sides of a span-roofed house, where the growths will be close to the roof and their requirements receive the first consideration. Give daily attention to the opening flowers in the matter of fertilisation. Maintain a night temperature of 58° to 60°, and by day one of 68° to 70°, with free ventilation on warm days, and at all times a moderately dry atmosphere.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Temperatures.—The weather experienced during the latter part of September was all that could be desired for Orchids, and, owing to the previous lack of sunshine, these favourable conditions were very welcome. As we cannot expect a long continuance of fine weather it will be advisable to prepare for winter by reducing the warmth in all the houses a few degrees night and day. The sun is still capable of raising the degree of warmth in the houses considerably during the middle hours of the day, and this should be made use of by the cultivator to admit fresh air.

Damping down.—The amount of damping down afforded at this part of the season must be reduced. On sunny days the East Indian and intermediate divisions may be damped down only moderately morning and afternoon, the houses being allowed to get dry during the middle hours, which is an important thing, and one that assists the thorough ripening of the growths. In the cooler divisions damping down should be done in the morning, and then only when the day promises to be sunny and warm.

Ventilation.—Continue to afford a considerable amount of air when the weather permits, Orchids growing stronger and healthier when the air is kept pure and sweet. Air may still be admitted during the middle hours of the day if the outside conditions are favourable, this being the best means of drying and purifying the atmosphere.

Appointments for October.

SATURDAY,	OCT. 3	Société Française d'Horticulture de Londres, Meeting.
TUESDAY,	OCT. 6	National Chrysanthemum Society's Early Variety Exhibition at Crystal Palace (three days).
TUESDAY,	OCT. 13	Royal Horticultural Society's Committees meet. Lecture on "Autumn Strawberries and Raspberries."
THURSDAY,	OCT. 15	Royal Agricultural and Horticultural Society of Jersey's Show of Fruits and Vegetables.
MONDAY,	OCT. 19	National Chrysanthemum Society's Executive and Flora Committees meets.
MONDAY,	OCT. 26	National Chrysanthemum Society's Floral Committee meets.
TUESDAY,	OCT. 27	Royal Horticultural Society's Committees meet. Lecture on "Pruning Roses."
WEDNESDAY,	OCT. 28	Royal Botanical Society meets.
THURSDAY,	OCT. 29	Torquay Gardeners' Association's Chrysanthemum Show. Irish Gardeners' Association meets.

SALES FOR THE WEEK.

MONDAY, OCTOBER 5, to FRIDAY, OCTOBER 9—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30 o'clock.

WEDNESDAY NEXT—

At Perry Hill Cliffs, near Rochester, Sale of Fruit Trees, by Protheroe & Morris, at 11.30 o'clock.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—53.7°.

ACTUAL TEMPERATURES:—

LONDON.—Sept. 30 (6 P.M.): Max. 70°; Min. 56°. Weather bright.

Oct. 1 (Noon): 64°. Slightly overcast, wind still. PROVINCES.—Sept. 30 (6 P.M.): Max. 63°, Cardiff; Min. 55°, Cape Clear.

The Events of the Week. The two most interesting and important events of the present horticultural year have happened this week. It is difficult to exaggerate their significance. An exhibition of vegetables by itself might not arouse much enthusiasm, though it ought to supply a much-needed stimulus. Such a display, held as the final ceremonial likely to be carried out in the famous gardens at Chiswick, stands out, however, as an historical event. The time has gone by for lamenting the abandonment of Chiswick or grieving over the long neglected opportunities of that establishment. Sir THOMAS HANBURY, V.M.H., has altered that, and we can only hope that the glories of the old garden may shine with enhanced splendour at Wisley. Still, although it would be childish to indulge in useless lamentations, we may surely find a useful stimulus in recalling the time when Chiswick was a live force in horticulture—the time of KNIGHT, of SABINE, of DOUGLAS, of BENTHAM, of ROYLE, of LINDLEY, of PAXTON, of ROBERT THOMPSON, of GEORGE GORDON, of ARCHIBALD BARRON. What giants these men were in their several departments! Wisley will have its work cut out to produce an equally imposing array; but there need be no reasonable doubt that the men will be forthcoming if the governing body is wise enough not only to consider the necessities of the moment, but to look forward to those possibilities which the association of science with practical horticulture is certain to beget.

There are not many left now who remember Chiswick as it was in its so-called "palmy" days, when, on occasion, it was the resort of the fashion of the day, when the block of carriages, whose occupants were wending

their way to the garden, began soon after leaving Hyde Park Corner and extended the whole way through Kensington and Hammersmith to Turnham Green. Then the area of the garden was three or four times greater than it is now. "Wild gardens" existed there before the name had been brought into popularity. An arboretum was formed of which a few remnants may still be seen in the adjacent villa gardens; and it can never be forgotten by the most indifferent of cultivators how important were the introductions of Douglas among Conifers, nor what a profusion of flowering plants from various parts of the world were gathered together by him and by other of the Society's collectors and dispersed from Chiswick. Truly Chiswick has had a noble past!

As to the materials and quality of the exhibits shown on this the last of the Chiswick exhibitions it is not necessary to speak here, beyond saying that they were excellent and worthy of the occasion. Reference must be made for details to another column.

But we cannot pass over the other important event of which we spoke—the two indeed are associated intimately—and it is fitting that some 500 gardeners should have met to revive old friendships, make new ones, and celebrate in this way the very important change in the destiny of a Society in which they are all so much interested. There has been no gardeners' dinner on any scale approaching to this since 1866, and the greatest thanks are due to the members of the Committee, to Mr. A. DEAN, and others who laboured to make this a success. Our supplementary illustration, prepared by Mr. GREGORY, gives the portraits of these good men and true; but, alas! since the photograph was taken death has seized one of the foremost of them, and one of the leading gardeners of the country—we allude to Mr. SMITH, of Mentmore, whose career was sketched in a former issue. Our illustration will thus have an added and a sadder significance than it would otherwise have had. But of the five hundred present, what shall we say but that they constitute a fine band of honest, trustworthy men, loving their work and willing to help their less fortunate brethren in the time of need? We might say a great deal more; common justice demands that we should say no less. And how high the profession of gardening stands! We are proud to consider ADAM as the special forerunner of gardeners, but DANTE goes further and describes the ALMIGHTY Himself as the "Eternal Gardener." If this be true, and in one sense it certainly is, then these five hundred men who met on Tuesday, as well as those who were not present, may well feel no common honour in their craft, as well as immeasurable reverence, in being permitted to be labourers under the most exalted of Head Gardeners.

"THE ETERNAL GARDENER."—The following reference to the "*Ortolano eterno*" is made by DANTE in canto xxvii., l. 65, of the *Paradiso*, as kindly pointed out to us by Mr. PAGET TOYNBEE CAREY's translation runs thus:—

"As for the leaves, that in the garden bloom,
My love for them is great as is the good
Dealt by the Eternal hand that tends them all."

DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—At the meeting of the Floral Committee on August 26, 1903, First-class Certificates were awarded to *Tamarix hispida æstivalis*, as a

new plant, from Mr. C. WESELENBURG, at Hazerswoude; to *Gypophila paniculata* fl.-pl., as a new plant, from Messrs. M. VAN WAVEREN, at Hillegom; and Certificates of Merit to *Tritoma Pfitzeri*, an insufficiently known plant, from the same firm; to *Crinum Powellii blandum*, as a new plant, from Mr. P. W. VOET, at Overveen, Haarlem; to *Anthemis nobilis* fl.-pl., as a newly imported plant, from Messrs. WESELENBURG & STASSEN, at Leiden; to *Richardia hybrid* Hillegom's Gloire, as a new plant, from Messrs. VAN MEER-BEEK & Co., at Hillegom. A Botanical Certificate was awarded to *Weigela hortensis nivea variegata*, as a new plant, from Mr. C. ESCHWEILER, at Oudenbosch; to *Viola cornuta grandiflora* Halbhauer, as a new plant, from Mr. J. C. GROENEWEGEN, at Landpoort.

THE LIVERPOOL HORTICULTURAL ASSOCIATION.—We are requested by Mr. HAROLD SADDLER, Secretary to state that the Chrysanthemum and Fruit Show of this Society will be held on November 11 and 12 next.

THE ETHERISATION OF PLANTS.—Mr. JANNONCH writes: "As my name was mentioned in the *Gardeners' Chronicle* on February 28 last, p. 143, in connection with the etherisation of plants, it may interest your readers to know that my further experiments this Autumn have proved very satisfactory, and were quite beyond expectation. Lilacs that were etherised on August 24, were in full bloom and foliage by September 18 and subsequent batches which I etherised are all doing well and growing with a rapidity quite amazing. So far I can only speak of Lilacs with a certainty of success, but I am experimenting with other plants, such as *Azalea mollis*, *Deutzias*, *Funcias*, *Spiræas*, *Prunus*, variegated Maple, *Wistaria*, &c., and I feel confident of success when the experiments are completed. Respecting the blooms of Lilacs, I find that from etherised plants, they are finer and last longer than from retarded plants, a fact which speaks well in favour of etherisation. T. Jannonch, Lily Nursery, Dersingham, near King's Lynn. [We are sorry again to ask why experiments of this kind are not carried out at Chiswick? It is not too late even now. Ed.]

PRESERVED VEGETABLES FOR THE NAVY.—It will be remembered that some time since an inquiry was made into the subject of catering for the Navy in respect to preserved vegetables; the report then submitted to "My Lords of the Admiralty" was duly considered, a careful specification drawn up for the use of those who might choose to tender for the supply of the specified provisions, and issued to such persons as were thought to be capable of carrying out the contract. The vegetables required consisted of Potatoes, Cabbages, Cauliflowers, Carrots, Onions, French Kidney Beans and Scarlet Runners, &c., sliced, shredded, or entire as required. Eighteen firms were chosen to compete, of which only one was British. The reason for this was that the wages item is a heavy one, and that our vegetables are so succulent that the cost of reducing moisture to 12 per cent. is a great deterrent.

THE LATE DR. ROBERT T. COOPER.—We regret to announce the death of Dr. COOPER, which took place on September 14 at his residence, 17, Stanley Gardens, London, W. He practised at 18, Wimpole Street, and belonged to Cooper's Hill, Co. Carlow, Ireland. Apart from his own profession, he took much interest in economic and social problems, and especially in forestry; and he delivered lectures on the subject of reforestation in Dublin, at Cambridge, and elsewhere. He founded the Irish Forestry Society, and took the deepest personal interest in its progress and welfare up to the last annual excursion, which had been arranged for Saturday, September 19, and to be in the domain and woods

of Powerscourt, Co. Wicklow. The day as fixed upon, however, proved to be the day of his funeral, and the excursion was postponed in respect to his memory. "*The Field*," Saturday, September 26.

BIRMINGHAM CITY PARKS.—The Baths and Parks Committee have appointed Mr. WILLIAM H. MORTER to the vacant post of Head Gardener (or Chief Park Keeper) of the Birmingham City Parks, rendered vacant by the retirement of Mr. SAMUEL HEARN, under the Birmingham Superannuation Act, 1897, after thirty years' continuous service with the Corporation. Mr. MORTER has had a very large and varied experience on the estate of Lord AVEBURY, at High Elms, Farnborough, where he has been employed as Head Gardener during the past eleven years, an experience which will be of much service to him in taking over the direction of the Gardening and Landscape Work connected with the Public Parks and Recreation Grounds of this City. Mr. MORTER will take up his new duties on November 1 next, and has been appointed at a salary of £180 per annum.

THE LOCUST IN NATAL.—The preventive measures of the Government against this destructive pest appear to be reaching perfection, and the results of their application are more satisfactory than formerly. Some sixty sprayers have been procured from America, thoroughly reliable arsenic from London, and the solution for spraying on trees, &c., made up as follows:—1 lb. of arsenic, $\frac{1}{4}$ lb. soda (washing), 4 to 5 lb. of sugar (or treacle), 16 gallons of water. The ingredients should first be boiled in two gallons of water for a quarter of an hour, and then added to the 14 gallons. This mixture has been found perfectly innocuous to stock, excepting in two cases, in which some pigs, imitating Dickens' jackdaw, partook of some of the mixture placed in tins, whose example was followed by a rash dog: both were buried in their skins! "Hoppers," we are told, find life a burden wherever the mixture is applied to the herbage which they frequent.

LABOUR-SAVING IMPLEMENTS.—Mr. J. C. WILLIS, Director of the Ceylon Botanical Gardens, demonstrated the utility of several labour-saving implements which he had come across when travelling in America. The most important, perhaps, was the Peavey log-roller. By means of this simple implement the log is gripped on the top, and thus the log-roller is enabled to obtain more leverage than with the old contrivance, which worked from the bottom, and generally made a hole in the ground. Mr. WILLIS put a fairly large log in motion by means of this instrument with practically no effort.

Then there was the post-hole digger. This simple implement is very useful for low-country work. In a very short time a round hole of several feet can be made. It is simply turned round, and does the boring itself. Of course, for stony or rocky ground a shovel must be used.

A very fine spray—particularly useful for the tea-plant—was also shown. It has the advantage of not being expensive. The old sprays used on estates were practically useless, because the spray was ejected in large drops, which could have no effect on the glossy tea-leaf; and it is only when spray is exceedingly finely distributed—as by this patent—that the necessary result can be produced.

Other implements, of which the advantages were obvious, were a steel tube rake, very light, and a machine for going between the rows of flower-beds, which, as it was provided with a wheel—could not sink below a certain depth.

There was also a very neat contrivance for scattering lime, which should be very effective if it can fulfil its purpose as successfully as it scattered the crowd. *Tropical Agriculturist*.

TESTIMONIAL TO A WELL-KNOWN COMMERCIAL TRAVELLER.—The staff of Messrs. HURST & SON, Seed Merchants, 152, Houndsditch, London, have presented to Mr. HUGH AITON, a silver tea service on his retirement from the firm.

SOCIETIES.

ROYAL HORTICULTURAL.

FRUIT AND VEGETABLES.

LAST EXHIBITION AT CHISWICK!

SEPTEMBER 29, 30 AND OCTOBER 1.

ONE of the busiest weeks of the horticultural year has just closed. The great exhibition of British grown fruits, which had been held at the Crystal Palace for some years past, was this year opened in the Society's gardens at Chiswick on Tuesday last, in conjunction with a marvellous show of vegetables. The reason, announced early in the year, for the transference of the fruit show from the Palace to Chiswick was that the Crystal Palace authorities always raised objection to vegetables being shown in conjunction with the fruit show. In any circumstances it appears to us a very satisfactory arrangement, bearing in mind that, as the President remarked during a speech which followed the luncheon, this event will most likely be the last exhibition that will be held at Chiswick. However good the reasons for leaving Chiswick may be, or how deeply we may regret that the association of the Society with the historical gardens is about to terminate, all of us may be glad that the events of the week have been the means of attracting a very large number of Fellows, to make, it may prove to many of them, a last visit to a place that will always occupy a prominent and honourable place in the history of the Society.

The FRUIT show was a great surprise to fruit growers. Even those who had contributed to make the display were astounded to see what their *confrères* were able to stage. As many were heard to remark on Tuesday, one would not have believed there was so much fruit in the country. Yet it must be admitted that there was not so fine an exhibition as would have been the case in a season in which the elements were more helpful to the development of the fruit crops.

If we turn to the VEGETABLES we may speak of them in the superlative degree, and without qualification. They were surpassingly good. In the large class for Amateurs' collections the exhibits staged by Messrs. BECKETT (1), and JAS. GIBSON (2), were the best produce and the best staged we have seen, justifying Mr. Molyneux's remark at the luncheon, that "such an exhibit of vegetables has never been put before the public since the creation."

After the luncheon, a Victoria Medal of Honour in Horticulture was presented to Sir THOMAS HANBURY, and two Testimonials to Mr. THOMAS HUMPHREYS. The Conference was opened at about 3 o'clock in the afternoon, Mr. GEO. BUNYARD presiding, and there was a good attendance. We may refer to the papers in our next issue. The weather in the afternoon of Tuesday was uncompromisingly wet, and many who had to attend the Gardeners' Dinner at the Holborn Restaurant in the evening received an unwelcome baptism.

DIVISION I.

FRUITS GROWN UNDER GLASS OR OTHERWISE.

(Gardeners and Amateurs only.)

COLLECTIONS OF FRUIT.

A noteworthy exhibit from His Majesty the KING, comprising nine very fine Pines, and a dozen large well-coloured bunches of Black Hamburg Grapes cut from the large Vine at Cumberland Lodge, was staged by Mr. MACKELLAR, and attracted considerable attention. The Grapes were large in berry and highly coloured.

There were two exhibitors of collections of nine dishes of ripe dessert fruits, and the Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), won

1st prize. He had excellent Grapes throughout, showing the varieties Muscat of Alexandria, Gros Maroc; also Melon Thornton Hero, Apples Washington and Ribston Pippin, Peaches Princess of Wales and Golden Eagle, Nectarine Albert Victor, and Pear Doyenné du Comice. The 2nd prize was won by the Hon. Mr. JUSTICE SWINFEN-EADY, Oatlands Lodge, Weybridge, Surrey (gr. Mr. Jas. Lock). He had very heavy bunches of Muscat of Alexandria Grapes, with fine large berries not quite finished, moderate Alnwick Seedling, a small Cayenne Pine, good Barrington and Princess of Wales Peaches, Humboldt Nectarines (small), a Melon, Brown Turkey Figs, and King of the Pippins Apples.

In a class for six dishes of fruit there was only one exhibitor, namely, J. WILLIS FLEMING, Esq., Chilworth Manor (gr. Mr. W. Mitchell). His Grapes were very good, Mrs. Pince being capital in size of bunch and colour, but the berries were rather small; Muscat of Alexandria was of good weight and colour. The rest of the dishes included two varieties of Peaches, one of Pears, and one of Apples.

GRAPES.

In the premier class for Grapes there was only one exhibitor, The Earl of HARRINGTON, Elvaston Castle, Derby (gr. Mr. J. H. Goodacre), who had a very nice collection of at least six distinct varieties, three bunches of each. The varieties were Black Hamburg, of moderate size and good colour; Barbarossa, very large; Black Alicante, excellent in berry but hardly finished in colour; Muscat of Alexandria, very good; Gros Maroc, and Madresfield Court, rather thin, light bunches.

In the next class, which called for four varieties of Muscat-flavoured Grapes, there was no exhibit at all.

Three bunches of Black Hamburg. — There were six entries in this class, and the 1st prize exhibit from J. WILLIS FLEMING, Esq., Chilworth Manor, Romsey Hants (gr. Mr. W. Mitchell), was much superior in colour and finish to any of the others; the 2nd prize was awarded to three bunches from the Earl of HARRINGTON; and the 3rd to Miss A. S. RIDGE, Highfield, Englefield Green (gr. Mr. G. Lane), who had large-berried bunches, but rather red in colour.

Mrs. Pince, three Bunches. — Of the three exhibits of this well-flavoured but rather difficult Grape, the best was shown by J. WILLIS FLEMING, Esq., whose very large bunches were about twice as heavy as any of the others and extra good. Two of the bunches were well finished, and the third nearly so. 2nd, the Earl of GALLOWAY, Galloway House, Garliestown, N.B. (gr. Mr. James Day).

Black Alicante, three Bunches. — There were as many as eight entries in this class, and the best Grapes were shown by GEORGE C. RAPHAEL, Esq., Castle Hill, Englefield Green (gr. Mr. H. H. Brown), who had heavy, well-shouldered, nicely-finished bunches. 2nd, S. PLATT, Esq., Wargrave Hill, Twyford, Berks (gr. Mr. M. Brodie); 3rd, Col. Hon. C. HARBORD, Gunton Park, Norwich (gr. Mr. W. Allan).

Madresfield Court, three Bunches. — The best in this class was again from the garden of J. WILLIS FLEMING, Esq., Chilworth Manor, and consisted of very long tapering bunches of highly-coloured, good-sized berries—a very excellent exhibit; 2nd, Miss TALBOT, Margam Park, Port Talbot (gr. Mr. R. Milner).

Any other Black variety, three bunches. — Excellent specimens of Gros Maroc gained 1st prize in this class for J. WILLIS FLEMING, Esq. The berries were of extra size and colour; 2nd, the same variety from Col. G. B. ARCHER HOUBLON, Hallingbury Place, Bishops Stortford (gr. Mr. W. Harrison); and the same variety from Col. HARBORD was placed 3rd. Appley Towers and Gros Colmar were also shown in this class.

Muscat of Alexandria — There were eleven exhibits of this, the best Grape extant. The 1st prize was awarded to the Earl of HARRINGTON for large bunches pretty well coloured; and the 2nd to the Hon. Mr. JUSTICE SWINFEN-EADY, Oatlands Lodge, Weybridge (gr. Mr. James Lock); Col. The Hon. C. HARBORD obtained 3rd prize for exceedingly well-coloured, ripe berries, just commencing to shrivel a little, but in the best condition for eating at the moment.

Any other White variety — The 1st prize was awarded to Chasselas Napoleon, shown by C. BEYER, Esq., nice white berries of the white appearance characteristic of the variety; the 2nd prize was won by the variety Mrs. Pearson, shown by the Hon. Mr. JUSTICE SWINFEN-EADY; and the 3rd prize to Golden Queen, shown by Captain CLIVE, Whitfield, Hereford (gr. Mr. Robert Grindrod).

DIVISION II.

(Open to Nurserymen and Market Growers only.)

FOR FRUIT GROWN ENTIRELY OUT-OF-DOORS.

The first Class in this division required a space of 32 feet by 6 feet run of tabling filled. Here Messrs. G. BUNTARD & Co., Maidstone, were worthily awarded the 1st prize for a very handsome exhibit. The centre-piece was a three-tier tripod, standing on a raised base draped with Smilax with single specimens of the Dartmouth Crab suspended at intervals. These at a short distance had the appearance of highly-coloured Plums.

On the base three highly coloured moulds of Apples were arranged, on the second tier three, and one at the top, which was about 6 feet above the level of the table. Along the length of the latter was a raised platform, and between the dishes of fruits small Palms, Ferns and Araucaria excelsa plants were lightly arranged. Noteworthy among the many dishes were very fine Gascoigne's Seedling, Stirling Castle, Washington, Peasgood's Nonsuch, Baumann's Reinette, Lady Sudeley, Royal Jubilee, Emperor Alexander, The Queen, Gloria Mundi, and Scarlet Pearmain among Apples, all wonderfully well coloured for such a summer as we have experienced. Pears were represented by Durondeau, Pitmaston Duchess, Doyenné du Comice, Winter Windsor, Dr. Jules Guyot, Souvenir du Congrès, Marguerite Marillat, Princess Emile d'Heyst, Vicar of Winkfield, Beurré Baltet Père, and some others; a few dishes of Plums, Monarch being noteworthy; and a collection of nuts—the whole collection comprising the large total of 190 distinct varieties.

The 2nd prize was awarded to Messrs. JOHN PEED & SON, West Norwood. Their collection was tastefully arranged in round baskets and dishes, and the fruits generally were of high character. Warner's King, Allington Pippin, Wealthy, Lane's Prince Albert, Gascoigne's Scarlet, Cellini Pippin, and Bismarck were conspicuous among the Apples; and no other varieties of fruits were included in this collection. Messrs. H. CANNELL & SON, who were placed 3rd, had a highly meritorious exhibit, admirably arranged, which, being near to the entrance of the large vinery, where all these exhibits were displayed, was seen to great advantage. Among Apples, very good were Warner's King, Emperor Alexander, Peasgood's Nonsuch, Gascoigne's Seedling, Baumann's Reinette, Bramley's Seedling, Cellini Pippin, Bismarck, Duchess of Oldenburgh, Hoary Morning, a nice lot of Gravenstein, and Lord Derby. Included in this collection were some small fruits and a collection of Kentish Cobs. Mr. BASHAM, Fair Oak Nurseries, Newport, Monmouth; Messrs. CHEAL & SONS, and Messrs. SPOONER & SONS, each staged very meritorious collections in this class.

The next class under the same conditions was allotted the same width with half the length—run (16 feet). In this section a Devonshire exhibitor was awarded the 1st position, Mr. J. B. COLWILL, Sidmouth. His collection was made up chiefly of Apples, which were unusually bright and highly coloured. Lady Sudeley was of remarkably high colour, Ecklinville, very fine; Worcester Pearmain, Gascoigne's Scarlet, Cox's Pomona, Cox's Orange Pippin, Tom Putt, Blenheim Pippin were among many others most noticeable. Mr. G. MOUNT, Exotic Nurseries, Canterbury, was 2nd with dishes of highly-coloured Apples in raised baskets, and a few Pears.

Messrs. PEWTESS BROS., The Old Nurseries, Tillington, Hereford; Messrs. PAUL & SON, Cheshunt, and Messrs. CUTBUSH & SONS, Highgate, and Messrs. HUGH LOW & CO., also staged miscellaneous collections in this class.

The HORTICULTURAL COLLEGE, Swanley, Kent, was represented by a handsome table of fruit, which excelled in artistic arrangement. Three stands of Melons draped with Smilax and Ampelopsis Vetchii gave height to the centre, while the same decoration formed the groundwork of the staging. Noticeable dishes were Peasgood's Nonsuch, Warner's King, Bismarck, six varieties of Melons, baskets of Grapes, dishes of Plums, Nuts and Pitmaston Duchess Pears very fine. The lady students took an active part in the arrangement, and must be congratulated on their success.

ORCHARD HOUSE FRUIT AND TREES ARRANGED ON 32 FEET RUN OF 6 FEET WIDTH OF TABLING

In this class Messrs. G. BUNTARD had a remarkable exhibit, which was worthily awarded a Gold Medal. The trees in pots were carrying excellent crops of highly-coloured fruits; and of Apples there were Emperor Alexander, Allington Pippin, Wagener, Gascoigne's Seedling, Dartmouth Crab, Baumann's Winter Reinette, Hormead's Pearmain, Winter Queening, and several in

duplicate. Peaches and Pears were also included. Among the dishes of fruits were extra fine Cox's Pomona, Golden Noble, Peasgood's Nonsuch, Washington, Gascoigne's Seedling, Emperor Alexander and Twenty-Ounce. Specially fine Pears were Doyenné du Comice, Marie Benoist, Beurré Superfin, Uvedale St. Germain, General Todleben, Marguerite Marillat and Pitmaston Duchess.

Messrs. RIVERS & SON also staged some good specimens. Particularly noticeable was a fine dish of Peasgood's Nonsuch Apple, of wonderful colour and size.

DIVISION III.

FRUITS GROWN IN THE OPEN AIR

*(EXCEPT CLASS 30.)**Open to Gardeners and Amateurs Only.*

Four exhibitors competed in the 1st Class of the Division, that for twenty-four dishes of Apples, sixteen cooking and eight dessert. The 1st prize was awarded to Mr. W. WILKINS, gr. to Wm. BYTHWAY, Esq., Warborough, Llanelly, for an even collection. The best among the culinary varieties were Tyler's Kernel, Peasgood's Nonsuch, Withington Fillbasket, Warner's King, Yorkshire Beauty, and Ecklinville Seedling; the dessert, Ribston Pippin, Worcester Pearmain, Cox's Orange, St. Edmund's Pippin, and Allington Pippin. 2nd, Mr. Salter, gr. to Mrs. HAYWOOD, Woodhatch Lodge, Reigate; he had a magnificent dish of Stones probably the best in the whole exhibition; also Warner's King, Lane's Prince Albert, and Ribston Pippin were very good. 3rd, Mr. Lewis, gr. to R. H. B. MARSHAM, Esq., East Sutton Park, Maidstone.

For eighteen dishes Mr. Charles Crane, gr. to Mrs. ALEXANDER, Cheveney Hunton, Maidstone, was 1st with among others very fine Peasgood's Nonsuch, Kent Fillbasket, Newton Wonder, Alexander, Lord Derby, Warner's King, Ribston, and Cox's Orange Pippin; 2nd, Mr. RIDGWELL, Orsett Grange, Essex; 3rd, Mr. J. CORNFORD, gr. to Major POWELL COTTON, Quex Park, Birchington: six lots competed.

In the class for thirteen dishes, Mr. A. Porteus, gr. to Mrs. C. T. HANBURY, Belmont, East Barnet, was 1st with nice clean, medium-sized samples; 2nd Mr. J. W. BARKS, gr. to H. PARTRIDGE, Esq., Castle Hill, Bletchingly, Surrey; 3rd, Mr. J. Weston, gr. to Viscount DUNANNON, Bessborough, Pieldown, Ireland.

For six dishes ten exhibitors competed, the 1st prize going to Mr. James Dawes, gr. to Lord BIDDULPH of Ledbury, Ledbury Park, Ledbury; large Pott's Seedling, Peasgood's and Warner's King; 2nd Mr. W. WILKINS.

For six dessert varieties, eleven exhibitors staged, the 1st prize going to Mr. WILKINS for Ribston, Egremont Russet, Worcester Pearmain, Cox's Orange, Allington Pippins, and Gascoigne's Seedling; 2nd, Mr. LEWIS.

PEARS.

In the succeeding class for eighteen dishes of Pears there were three competitors, the 1st prize going to Mr. Woodward, gr. to R. LEIGH, Esq., Barham Court, Maidstone. He had very fine Marguerite Marillat, Durondeau, Pitmaston, Le Brun, Conference, Beurré Lucas, Princess, Magnate, Duchesse d'Angoulême, Beurré Baltet Père, Doyenné du Comice, Beurré Dumont, and Gansels Bergamot; 2nd, Mr. Bacon, gr. to Rt. Hon. THE LORD MAYOR, The Mote, Maidstone; 3rd, Mr. J. CORNFORD.

For nine dishes the only exhibitor, Mr. Parr, gr. to F. A. BEVAN, Esq., Trent Park, New Barnet, was awarded the 1st prize.

For six dishes two competed, the 1st prize going to Mr. Mancey, gr. to ALFRED BENSON, Esq., Upper Gattin Park, Merstham; 2nd, Mr. J. MOORE.

PEACHES

grown entirely out-of-doors. For three varieties, Mr. Masterson, gr. to the Earl of CAMPERDOWN, Weston House, Shipston-on-Stour, was 1st, showing the varieties Walburton, Princess of Wales, and Sea Eagle; but in the succeeding class for one variety the 1st prize was awarded to Mr. Vert, gr. to Lord BRAYBROOKE, for Sea Eagle; the 2nd to Mr. W. Mitchell, gr. to J. W. FLEMING, Esq., Chilworth Manor, Romsey, for the same variety. The best dish of Nectarines was from Mr. GOODACRE.

PLUMS AND CHERRIES.

But one exhibitor staged six dishes of Plums, Mr. J. CORNFORD, and he was awarded the 1st prize.

No exhibitor was forthcoming with six dishes, two to be dessert and four cooking; but in the succeeding class, that for a single dish of Gage Plums, there were ten competitors, all but one showing Cox's Golden Drop. Mr. J. VERT was 1st; 2nd, Mr. C. CRANE.

For any single dish of a dessert variety there was no exhibitor; but for a single dish of a cooking variety nine dishes of Monarch and one of Archduke were staged. Mr. VERT was again 1st; 2nd, Mr. Carlisle, gr. to G. J. GRIBBLE, Esq., Harlow Grange, Biggleswade.

The Morello Cherry class brought four exhibits, the 1st prize going to Mr. Page, gr. to J. B. FORTESCUE, Esq., Dropmore; 2nd, Mr. S. HAINES, gr. to Hon. D. P. BOUVERIE, Colleshill House, Highworth.

DIVISION IV.

SPECIAL DISTRICT COUNTY PRIZES.

*(Open to Gardeners and Amateurs only.)**OPEN ONLY TO KENT GROWERS.*

Collection 1.—Mr. G. H. DEAN, Sittingbourne, Kent (gr., W. S. Stower), with very good fruits of Bismarck, Peasgood's Nonsuch, Bramley's Seedling, Warner's King, King of the Pippins, and Cox's Orange Pippin; 2nd, Mr. T. L. BOYD, Tonbridge, Kent (gr., E. Coleman), with Peasgood's Nonsuch, Warner's King, Queen, Bismarck, Cox's Orange Pippin, and Ribston Pippin.

Six dishes of Pears; one only, but very fine fruit. 1st, Mr. T. L. BOYD, with Beurré Fouquetier, Pitmaston Duchess, Duchesse d'Angoulême, Beurré Baltet Père, Durondeau, and Doyenné du Comice.

OPEN ONLY TO GROWERS IN SURREY, SUSSEX, HANTS, DORSET, SOMERSET, DEVON, AND CORNWALL.

Six dishes of Apples as before. There were from exhibitors in these counties six collections. 1st, Mr. J. T. G. BANNATYNE, Haldon House, Exeter (gr., T. Ellicott), with Annie Elizabeth, Ecklinville, Peasgood's Nonsuch, Loddington Seedling, Ribston Pippin and Worcester Pearmain; 2nd, Mr. M. P. GRACE, Battle Abbey, Sussex (gr., H. Avery), with Lady Henniker, Warner's King, Loddington, Mère de Menage, Cox's Orange and Ribston Pippins.

Six dishes of Pears. In this class there were four collections. 1st, J. K. D. WINGFIELD DIGBY, Esq., Sherborne Castle (gr., T. Turton), with Beurré Diel, B. Superfin, B. Alexander Lucas, Doyenné du Comice, Huyshe Victoria and Durondeau; 2nd, the Earl of ASHBURNHAM, Ashburnham Place, Battle (gr., G. Grigg), with Doyenné du Comice, Pitmaston Duchess, Brockworth Park, Louise Bonne of Jersey, Beurré Bachelier and B. Bosc.

OPEN ONLY TO GROWERS IN WILTS, GLOUCESTER, OXFORD, BUCKS, BERKS, BEDS, HERTS AND MIDDLESEX.

Six dishes of Apples as before. There were in this class six collections shown. 1st, Sir A. K. B. OSBORN, Chicksands Priory (gr., C. J. Elliott), with Golden Noble, Warner's King, Blenheim Orange Pippin, Peasgood's Nonsuch, Ribston and King of the Pippins; 2nd, A. W. G. WRIGHT, Esq., Newent, Gloster (W. H. Davies, gr.), with The Queen, Warner's King, Mère de Menage, Peasgood's Nonsuch, Worcester Pearmain, and Cox's Orange Pippin.

Six dishes of Pears brought two collections, 1st, Mrs. ST. VINCENT AMES, Cote House, Westbury (gr., Mr. W. H. Bannister), with Beurré Bosc, B. superfin, Durondeau, Doyenné du Comice, Marie Louise, and Autumn Nelis; 2nd, G. J. GRIBBLE, Esq., Harlow Grange, Biggleswade (A. Carlisle, gr.), with Margaret Marillat, Louise Bonne of Jersey, Pitmaston Duchess, Marie Louise, Doyenné du Comice, and Durondeau.

CLASS 40.—OPEN ONLY TO GROWERS IN ESSEX, SUFFOLK, NORFOLK, CAMBRIDGE, HUNTS, AND RUTLAND.

Six dishes of Apples, three collections, 1st, Mr. N. A. PAGE, Thorness, Clacton-on-Sea, with Warner's King, Gascoigne's Scarlet Seedling, Cox's Pomona, Peasgood's Nonsuch, Cox's Orange, and King of the Pippins. The samples were decidedly good. 2nd, Col. G. B. ARCHER HOUBLON, Hallingbury Place (gr., Mr. W. Harrison), with Peasgood's Nonsuch, Warner's King, Lord Derby, Northern Greening, Worcester Pearmain, and King of Pippins.

Six dishes of Pears.—Of these there were two collections, 1st, Col. Hon. C. HARBORD, Gunton Park, Norwich (gr., Mr. Allan), with very fine fruit of Beurré Baltet Père, Marie Louise, Brockworth Park, Doyenné du Comice, Emile d'Heyst, and Doyenné Boussois; 2nd, Lord BRAYBROOKE, Audley End, Saffron Walden (gr., Mr. J. Vert), with Beurré Bachelier, Doyenné du Comice, Gratioli, Beurré de Jonghe, Bergamotte d'été, and Alexandre Lambre.

CLASS 41.—OPEN ONLY TO GROWERS IN LINCOLN, NORTHAMPTON, WARWICK, LEICESTER, NOTTS, DERBY, STAFFORDSHIRE, SHROPSHIRE, AND CHESHIRE.

Six dishes of Apples, four collections, 1st, Mr. JOHN LEE, Higher Bebington, Cheshire, with Tyler's Kernel.

Peasgood's Nonsuch, Warner's King, Loddington, Ribston and Cox's Orange Pippins; 2nd, Mr. KNIGHT, Stamford, with Blenheim Orange and Cox's Orange Pippin, Peasgood's Nonsuch, Warner's King, Mère de Menage, and Worcester Pearmain.

Six dishes of Pears, three collections, 1st, The Duke of Rutland, Belvoir Castle (gr., Mr. W. H. Divers), with Huyshe's Victoria, Beurré Rance, B. Diel, Doyenné du Comice, Emile d'Heyst, and Glou Morceau; 2nd, Mr. HENRY KNOTT, with Beurré Rance, B. Alexander Lucas, B. Diel, B. Superfin, Louise Bonne of Jersey, very good, and Doyenné du Boussoch.

CLASS 42.—OPEN ONLY TO GROWERS IN WORCESTER, HEREFORD, MONMOUTH, GLAMORGAN, CARMARTHEN, AND PEMBROKE.

Six dishes of Apples, two collections. —1st, Lord BIDDULPH of Ledbury, Ledbury Park (gr. J. Dawes), with fruit richer in colour than in the two preceding classes, having Warner's King, Peasgood's Nonsuch, Taylor's Kernel, Gascoigne's Scarlet, Ribston and Cox's Orange Pippins; 2nd, Mr. JOHN H. WOOTTON, Byford, Hereford, with Warner's King, Queen, Ecklinville Seedling, Peasgood's Nonsuch, Worcester Pearmain, and Wealthy.

Six dishes of Pears only.—1st Lord BIDDULPH of Ledbury, with fruit of fine quality, the varieties Pitmaston Duchess, Doyenné du Comice, Brockworth Park, Doyenné Boussoch, Gratioli of Jersey, and Marie Louise.

CLASS 43.—OPEN ONLY TO GROWERS IN THE OTHER COUNTIES OF WALES.

Six dishes of Apples, three collections. —1st Col. CORNWALLIS WEST, Ruthin (gr. A. Forder), with Warner's King, Peasgood's Nonsuch, Lord Suffield, Lord Derby, Ribston Pippin, and Worcester Pearmain; 2nd, R. A. HORSPOOL, gr., Chirk Castle, Ruabon, with Warner's King, Blenheim Orange, Queen, one unnamed Allington Pippin, and Worcester Pearmain.

Six dishes of Pears, three collections.—1st, Mr. R. A. HORSPOOL, with Beurré Bachelier, B. Diel, Triomphe de Jodoigne, Chaumontel, Conference, and Louise Bonne of Jersey; 2nd, DAVIS EVANS, Esq., Highmead, Llangbyther (gr. Mr. Fox), with Durondeau, Doyenné du Comice, Bon Chrétien, Beurré Hardy, B. d'Amanlis, and B. Rance.

CLASS 44.—OPEN ONLY TO GROWERS IN THE SIX NORTHERN COUNTIES OF ENGLAND AND IN THE ISLE OF MAN.

Six dishes of Apples, two collections.—1st Mr. J. MCINDOE, The Gardens, Hutton Hall, Gulsborough, with Warner's King, Bramley's Seedling, Lord Derby, Lord Grosvenor, Ribston and Cox's Orange Pippins; 2nd, Mr. H. THELUSSON, Brodsworth Park, Doncaster (gr. W. Chuck), with Alfriston, Ecklinville Seedling, Bismarck, Northern Greening, Lady Sudeley, and Cox's Orange Pippin.

Six dishes of Pears.—1st, H. THELUSSON, Esq., with Durondeau, Beurré Diel, Gratioli of Jersey, Colmar d'été, Jargonelle, and Louise Bonne of Jersey; 2nd, The Earl of LATHOM, Ormskirk (gr. B. Ashton), with Pitmaston Duchess, Doyenné du Comice, Durondeau, Glou Morceau, Easter Beurré, and Louise Bonne of Jersey.

CLASS 45.—OPEN ONLY TO GROWERS IN SCOTLAND.

Six dishes of Apples, two collections, 1st, The Earl of GALLOWAY, Galloway House, Garlieston (gr. J. Day), with good fruit of Peasgood's Nonsuch, Warner's King, Bismarck, Gascoigne's Seedling, James Grieve, and Worcester Pearmain; 2nd, The Earl of HOME, Coldstream, N.B. (gr., Jno. Cairns), with Warner's King, Bismarck, Grenadier, Lane's Prince Albert, Duchess' Favourite, and Duke of York.

Six dishes of Pears, two collections, 1st, The Earl of GALLOWAY, with Pitmaston Duchess, Durondeau, Madame Treyve, Jersey Gratioli, Beurré Bachelier, and Louise Bonne of Jersey; 2nd, The Earl of HOME, with Beurré d'Amanlis, Doyenné Boussoch, Backhouse's Beurré, Beurré Clairgeau, and Doyenné du Comice.

CLASS 46.—OPEN ONLY TO GROWERS IN IRELAND.

Six dishes of Apples, four collections, 1st, Mr. H. F. BROAD, Aghern, Conna, co. Cork, with Stirling Castle, Sharp's Nose, Queen, Winter Hawthornden, Allington Pippin, and Worcester Pearmain. The first generally well coloured; 2nd, Viscount DUNCANNON, Piltown (gr., J. Weston), with Lane's Prince Albert, Golden Spire (very doubtful), Queen, Ecklinville, Colonel Vaughan, and Worcester Pearmain.

Six dishes of Pears, 1st, Mr. H. F. BROAD; and 2nd, Lady E. H. BURY, Tullamore (gr., R. McKenna), but the fruit could not be correctly identified.

DIVISION V.

SINGLE DISHES OF FRUIT GROWN IN THE OPEN AIR.

(Open to Gardeners and Amateurs only.)

CHOICE DESSERT APPLES.

Adams' Pearmain.—1st, J. F. G. BANNATYNE, Esq., Haldon House, Exeter (G. Ellicott, gr.), with even, well-coloured fruit for the season; 2nd, Mr. G. PEARSON, Brickendonbury, Hertford (R. Smith, gr.), also with good fruit. Six dishes were shown.

Allington Pippin.—Ten dishes, varying somewhat in character according to locality. 1st, Miss TALBOT, Margam Park, Port Talbot, with very fine fruit; 2nd, Mr. G. H. DEAN, Whitehall, Sittingbourne (R. Miller, gr.), with smaller but good type.

American Mother.—Only two samples were shown, and those of indifferent character. 1st, Lord POLTIMORE, Poltimore, Exeter (T. H. Slade, gr.); 2nd, Mrs. HAYWOOD, Woodhatch Lodge, Reigate (C. J. Salter, gr.), with an ordinary sample.

Blenheim Orange.—Ten dishes. 1st, Mr. T. L. DAVIES, Park House, Addlestone, with small, even examples; 2nd, Mr. G. H. DEAN. The samples varied considerably.

Charles Ross.—One dish only. In appearance like a small Peasgood's Nonsuch. 1st, Mr. J. B. COLWILL, High Street, Sidmouth. A good sample.

Cox's Orange Pippin.—Thirteen dishes. 1st, Mr. J. W. FLEMING, Chilworth Manor, Romsey (gr., Mr. W. Mitchell), with a good dish of fruit, but one fruit very like Cellini Pippin; 2nd, Mr. G. H. DEAN, also with an excellent dish.

Egremont Russet.—Four dishes only. 1st, WALPOLE GREENWELL, Esq., Marden Park, very fine; 2nd, C. P. WYKEHAM MARTIN, Esq., Leeds Castle, Maidstone, also with fruit of good character.

James Grieve.—Three dishes only. J. T. ATKINSON, Esq., Montrose Villa, Caversham, Reading, with bright, finely-matured fruit; 2nd, Col. G. B. ARCHER HOUBLON, Hallingbury Place, Bishop's Stortford, with fruit differing very widely in character.

King of the Pippins.—Seventeen dishes. This class shaped as well as any, though some fruits were small. 1st, The Rev. THOS. MCMURDIE, Woburn Park, Weybridge, with large fairly-finished fruit; 2nd, A. W. G. WRIGHT, Esq., Quarry House, Newent, Glos., with bright well-coloured samples.

Mannington Pearmain.—Five dishes; generally of indifferent quality. 1st, JOHN LEE, Esq., Kingscroft, Higher Broughton; 2nd, T. L. BOYD, Esq., Tonbridge (gr. E. Coleman).

Margil.—Five dishes. 1st, G. J. GRIBBLE, Esq., Harlow Grange, Biggleswade (gr., A. Carlisle); 2nd, Mrs. HAYWOOD.

Ribston Pippin.—Twelve dishes; some very good fruit indeed was staged. 1st, The Earl of ASHBURNHAM, Ashburnham Place (gr. G. Grigg), very fine; 2nd, G. H. DEAN, Esq., also with an excellent sample.

Any other Variety, seven dishes being shown.—1st, Col. ARCHER HOUBLON, with a good dish of Washington; Mr. A. W. G. WRIGHT was 2nd, with finely-coloured Worcester Pearmain. Lady Sudeley, Williams' Favourite, &c., were shown.

CHOICE COOKING APPLES.

Bismarck.—Six dishes. 1st, G. H. DEAN, Esq., with a very fine sample indeed; 2nd, H. H. WILLIAMS, Esq., also with good fruit.

Blenheim Orange.—Nine dishes of larger-sized fruit than in the Dessert Class. The Rev. THOS. MCMURDIE was 1st with fine examples; and Mr. G. H. DEAN, 2nd.

Bramley's Seedling.—Nine dishes. 1st, G. H. DEAN, Esq., with very large fruit; and Mrs. G. PEARSON, 2nd.

Gascoigne's Scarlet.—1st, Mr. G. H. DEAN, with finely-finished fruit; Mr. WALPOLE GREENWELL was 2nd, with medium-sized samples, having a delightful bloom upon them.

Golden Noble.—Seven dishes. 1st, Mr. A. W. G. WRIGHT, with well-coloured specimens; and Mr. G. H. DEAN, 2nd.

Lane's Prince Albert.—Thirteen dishes, generally very good. 1st, Mr. G. H. DEAN, with large symmetrical fruit; 2nd, Mrs. HAYWOOD.

Lord Derby.—Eleven dishes. 1st, H. C. SMITH, Esq., Mount Clair, Rochampton (gr., W. Wallace), with fine even fruit; 2nd, Mr. G. H. DEAN, with good fruit also.

Mère de Menage.—Six dishes. 1st, G. H. DEAN, Esq., brightly coloured; 2nd, J. B. FORTESCUE, Esq., Dropmore, Maidenhead (gr. C. Ridge).

Newton Wonder.—Five dishes. 1st, Col. the Hon. C. HARBORD, Gunton Park, Norwich (gr., W. Allan); 2nd, the Earl of GALLOWAY, Garlieston, N.B. (gr., J. Day).

The prizes in this class were given by Messrs. J. R. PEARSON & Co., and the competition was confined to exhibitors living in certain Northern and Eastern Counties. They also offered prizes in Class 71 for exhibitors living south of these Counties, twelve dishes being shown, and, as might be expected, much finer than any in the previous class. G. H. DEAN, Esq., of Kent, was 1st, and Mr. W. GREENWELL, Surrey, 2nd.

Peasgood's Nonsuch.—Four dishes. 1st, G. H. DEAN, Esq., with very fine fruits; 2nd, J. B. FORTESCUE, Esq.

Stirling Castle.—Eight dishes. 1st, Colonel ARCHER HOUBLON, with good fruits; Mr. J. K. WINGFIELD DIGBY, Sherborne Castle, Sherborne, was 2nd.

Warner's King.—Nine dishes. 1st, Mr. JOHN LEE, Higher Bebbington, with large examples; Mr. G. H. DEAN was 2nd.

Any other variety.—Nineteen dishes. 1st, Mrs. HAYWOOD, with very good Stone's; 2nd, Lord BRAYBROOKE, Audley End, Safron Walden, with the same variety, very good; 3rd, T. L. BOYD, Esq., Tonbridge, Kent (gr., E. Coleman), with Royal George; 4th, M. P. GRACE, Esq., Battle Abbey (gr., H. Avery), with Loddington Seedling.

CHOICE DESSERT PEARS.

Beurré Superfin.—Three dishes. 1st, J. K. D. W. DIGBY, Esq., with an excellent dish; 2nd, Mrs. ST. VINCENT AMES, Cote House, Westbury.

Comte de Lamy.—One dish only. 1st, J. T. CHARLES-WORTH, Esq., Redhill (gr., T. W. Herbert), with fair-sized fruit.

Doyenné du Comice.—Four dishes. 1st, Lord NORTHBOURNE, Northbourne Abbey, Dover, with very finely finished fruit; 2nd, H. PARTRIDGE, Esq., Betchingley, Surrey (gr., J. W. Barks), with good, but not so fully ripened examples.

Durondeau.—Three dishes. 1st, J. K. D. W. DIGBY, Esq., with very fine fruit; Col. the Hon. C. HARBORD was 2nd.

Emile de Heyst.—Three dishes. 1st, Col. the Hon. C. HARBORD, with a dish of good fruit, 2nd, Mr. C. P. W. MARTIN, with smaller but shapely examples.

Fondante d'Automne.—One only, poor; 2nd, the Hon. C. HARBORD.

Louise Bonne of Jersey.—Five dishes. 1st, the Earl of ASHBURNHAM, with very fine fruit; 2nd, Col. the Hon. C. HARBORD.

Marie Louise.—Four dishes. 1st, Col. the Hon. C. HARBORD, very good; 2nd, A. BENSON, Esq., Upper Gatton Park, Merstham.

Pitmaston Duchess.—Six dishes. 1st, H. PARTRIDGE, Esq., with large examples; 2nd, Col. the Hon. C. HARBORD.

Thompson.—One dish only. 1st, Col. the Hon. C. HARBORD.

Any other Variety.—1st, the Hon. C. HARBORD, with very fine Williams' Bon Chrétien, fully ripe; 2nd, Col. G. B. A. HOUBLON, with Doyenné Boussoch; 3rd, H. PARTRIDGE, Esq., with Fondante Thirriott; 4th, Col. ARCHER HOUBLON, with Seckle.

DIVISION VI.

Dried or preserved fruits of any kind were shown subject to the condition of their being tested by the judges, and provided they were grown in the British Islands.

The principal class here asked for an exhibit to occupy a space of 8 feet by 6 feet, and not more than 2 feet high in the centre, to comprise home preserved or home bottled British-grown fruits (Open).

The 1st prize was awarded Miss BRADLEY, Lady Warwick Hostel, Studley, Warwickshire; Messrs. AUSTIN & Co., Kingston-on-Thames, being a very close 2nd.

In the 1st prize stand were bottled fruits of Plums, Raspberries, Cherries, Currants, Gooseberries, Peaches, Tomatos, young berries of Grapes from Grape-thinnings, and several others, besides jams and jellies of similar subjects. Messrs. AUSTIN had a rather larger number of bottles, among which Raspberries were conspicuous by their bright colouring.

The next class asked for foreign grown and preserved or bottled fruits, in which one exhibitor only staged, Miss C. E. MARTIN, Willowbrook, Auburn, New York. The subjects here comprised sliced green Tomatos, Peach Chutney, Brandy Peaches, and Brandy Pears; a 2nd prize was awarded.

Two classes for eighteen bottles were devoted to amateurs who did not trade or sell their produce. The 1st prize was awarded to Mrs. C. P. MARKHAM, Hasland Hall, Chesterfield; 2nd, Mrs. E. BRACKETT, Aldenham, Elstree.

There were four exhibitors for an exhibit of twelve bottles, two competed, the 1st prize going to Mr. J. BUSHNELL, Sandling, Maidstone; 2nd, Miss SMITH, The Bungalow, Southwick, Brighton.

HORTICULTURAL SUNDRIES.

A tent was provided for sundries, and a great variety of specialties more or less used in gardens were displayed. Messrs. W. WOOD & SON, Wood Green, made an imposing display, and were awarded a Silver Banksian Medal. In their exhibit they displayed the tops of several Potato growths clean and healthy, as showing the freedom from disease when sprayed, as these had been, with their perfect copper compound "Mardol."

Mr. J. PINCHES made a characteristic display of "Acme" labels in great variety, wire arches, &c. (Silver Banksian Medal).

Messrs. J. BENTLEY, Ltd., Chemical Works, Hull, staged a large collection of their well-known insecticides, weed killers and manures, and were awarded the Silver Flora Medal, the highest awarded in this section.

Mr. E. C. LAWSON, Ashley Road, Hornsey Rise, N., had on show Beckett's Patent Tree Ties, a handy invention of Mr. E. Beckett, which should prove a very useful article.

Messrs. VALLS & Co. had a stand of their speciality, "Beetlecut," for the destruction of beetles, cockroaches, &c. (Bronze Medal).

Messrs. CHAMPION & Co. had on view a collection of their specially made tubs, boxes, &c., now well known.

Messrs. PULHAM & SON staged vases and other objects in their Pulhamite Stone, together with a small collection of alpine and rock plants.

Mr. A. P. BRUCE, Chorlton-cum-Hardy, Manchester, sent a collection of floral helps for mounting cut flowers.

Messrs. G. GEORGE & SON, Putney, Messrs. CORRY & Co., Ltd., also staged collections of garden sundries; and H. M. HAMILTON, 2, York Street, Covent Garden, fancy baskets in great variety, each being awarded a Silver Banksian Medal.

DIVISION VII.

VEGETABLES.

How well did the exhibits in this section justify the efforts put forth a few months since to induce the Council of the Royal Horticultural Society to promote a great vegetable exhibition! Although what was seen was not so fully up to the standard desired by the promoters of the exhibition in the general effect produced, yet there were collections shown such as have never before been seen anywhere, which not only in quality, but also in arrangement, showed that England takes a very high position in vegetable culture.

In the large tent devoted to vegetables, without doubt, the two collections staged side by side there by Messrs. E. BECKETT and J. GIBSON constituted the primary feature; indeed, once seen, few wanted to see others. All the same, there were other fine lots; and remarkably fine were those collections set up, not for competition, by some of our great firms. Those collections of the trade put into competition were rather inferior, and comprised rather quantity and variety than high quality.

Taking the Gardeners' classes first, as most important, in the large one, occupying a space of 50 square feet, the 1st prize and the Sherwood Silver Cup went to a grand collection of 112 dishes exhibited by Mr. E. Beckett, gr. to Lord ALDENHAM, Aldenham House, Elstree. Mr. Beckett had built up a fine background, in which were inserted many fine dishes, that being faced with many others best displayed in that way; and on a bed of Parsley Giant White, Standard Bearer, Solid White, and Prize Pink Celeries; International and Champion Leeks; Ne Plus Ultra, Ailsa Craig, Cocoonut, Blood Red, and White Lisbon Onions; Satisfaction, Syon House, Up-to-Date, Sir J. Llewellyn, Windsor Castle, and Satisfaction, white; and Edgescote, purple, Mr. Bresee, The Dean, Lord Tennyson, and Vicar of Laleham, coloured Potatoes. Scarlet Model, New Intermediate, and other Carrots; Sensation. Defiance, Royal Windsor, and Ideal Cucumbers; Golden Jubilee, Lister's Prolific, Daniel's No. 1, Dwarf Gem, Perfection, and other Tomatoes; Autocrat, E. Beckett, Captain Cuttle, Gladstone, late cropping Peas; very fine white Giant Cauliflowers, white and red Cabbages,

Savoys, Kales, white and yellow Turnips, Mushrooms. Vegetable Marrows some six varieties, and many other lesser vegetables, made up a collection that in quality and arrangement has never been equalled. In the judging, conducted by points and with the greatest care, it was interesting to note how the diverse leading dishes in this, and the splendid collection set up beside it by Mr. J. Gibson, gr. to R. W. HUDSON, Esq., Danesfield, Marlow, oscillated, sometimes one getting the lead, sometimes the other, and probably of about the first eighty dishes there was little to choose.

Mr. GIBSON set up ninety-five dishes, having thus fewer by twelve than had his formidable competitor, who in that way gained valuable points. This exhibitor had fine white and red Celery, Magnum Bonum, Ailsa Craig, A.I., and Blood-Red Onions; Favourite, New Intermediate, Early Forcing, Early Gem and the most perfect Scarlet Defiance Carrots ever seen. Several varieties of Beets; grod Gladstone, Autocrat, Early Giant and Duchess of Albany Peas; superb Parsnips, fine Cauliflowers; Triumph, Edward VII., Reading Russet, Windsor Castle, and other Potatoes; also fine Tomatoes, Vegetable Marrows, Runner and Dwarf Beans, &c. Should these giants in vegetable culture ever meet again in a similar class at a Royal Horticultural Society's show, we hope the number of dishes will be strictly limited to sixty, and thus make the contest more even and fair, as well as more interesting.

Mr. W. Fyfe, gr. to Lady WANTAGE, Lockinge House, Wantage, put up a very handsome collection of sixty dishes, such as would elsewhere have been placed very high. Here he was placed 3rd; Mr. Lock, gr. to B. H. HILL, Esq., Crediton, coming 4th.

In the other Gardeners' class the space to be covered being but 24 square feet there were but three competitors. Here, Mr. T. Bowerman, gr. to Lord BOLTON, Hackwood Park, Basingstoke, was a fairly easy 1st, his exhibits being so very good. He had thirty-four dishes, including grand Leeks, fine Intermediate Carrots, Autumn Giant and Mammoth Cauliflowers, superb Solid White, and Standard Bearer red Celery; Excelsior, Ailsa Craig, and Blood-Red Onions; Pole-gate, Sunbeam, Golden Perfection, and other Tomatoes; Hackwood Queen Runner Beans, Duke of Albany and Alderman Peas, The Major, Up-to-Date, Sir J. Llewellyn and other Potatoes; Beets, Turnips, Parsnips. This collection won the Veitch Memorial Medal. Mr. A. Basil, gr. to the Rev. THOS. McMURDIE, Weybridge, was 2nd.

POTATOS.

The best samples of these tubers without doubt came from Mr. B. Ashton, gr. to the Earl of LATHOM, who had quite beautiful Carltonian, Discovery, Duke of York, The Sirdar, Monarch, New Guardian, Snowdrop, Ever-good, General Buller, Snowball, and Fyde Wonder. Mr. A. AYLING, Newhaven, Sussex, came 2nd, his tubers being rather too large and quite lacking in finish; whilst Mr. S. Cole, gr. to Earl SPENCER, Althorp, had distinctly the handsomest and cleanest tubers, and should, as showing quality, have been placed before size and discoloration.

TRADE COLLECTIONS IN COMPETITION.

In the large class allowing a space of 100 square feet, Messrs. R. SMITH & SONS, Worcester, were the only exhibitors. The collection comprised every possible kind or variety, but they were lacking in the rare quality seen elsewhere. In the corresponding class to cover 50 square feet, the competitors in the order in which Medals were awarded were Messrs. VEITCH & SONS, Exeter; Messrs. J. CHEAL & SON, Loughfield, Crawley; and Messrs. G. BUNYARD & SONS, Maidstone. These collections contained a remarkable variety of vegetable products, but need hardly be more specially referred to.

There was no exhibit in the class for Gourds, the season apparently not having favoured those productions. In the trade class for a collection of eighteen dishes of Potatoes, the best came from Mr. GREEN, Wisbech, who had clean samples of Ninety-Fold, Sir J. Llewellyn, Satisfaction, Evergood, General Roberts, The Factor, Up-to-Date, Edgescote Purple and others. Mr. J. B. COLWILL, Sidmouth, was 2nd, having good Ideal, The Factor, Mr. Bresee, The Crofter and others.

DIVISION VIII.

OPEN TO AMATEURS ONLY.

In this division there were some excellent exhibits, and the competition in most of the classes was fairly good, although there were a few which were not filled, for which in a measure the season was answerable. What may be termed the more popular kinds, such as Potatoes, Cabbages, Cauliflowers, &c., were well represented. The Globe Artichoke class brought three exhibits and all good; Mr. Beckett, gr. to Lord ALDENHAM, Aldenham House, Elstree, was 1st with the green variety; Mr. Gentile, gr. to Mrs. DENNISON, Gt. Gaddesden, was 2nd, with purple heads slightly more aged, but equally fine as regards size, succulent and fleshy; 3rd, Rev. T. McMURDIE (gr., Mr. A. Basil), Woburn Park, Weybridge.

There was no competition for climbing or dwarf French Beans, which seemed strange, the climbing variety having become very popular.

Scarlet Runners or White Runner Beans were abundantly shown and the quality was superior, five lots being shown. The 1st prize was well taken by Mr. B. Ashton, gr. to the Earl of LATHOM, Ormskirk, with Sutton's Prizewinner, a fine Bean of a deep-green colour; 2nd, H. PARTRIDGE, Esq., Castle Hill, Bletchingley (gr., Mr. J. Banks), with Sutton's Best-of-All; B. H. HILL, Esq. (gr., Mr. G. Zock), Newcomes, Crediton, Devon, was 3rd.

Red top round Beetroot brought a good competition, and Mrs. DENNISON was a good 1st with Eclipse, the roots of nice shape and nice colour and size; 2nd, Mr. BASIL; and 3rd, B. H. HILL, Esq. Eleven lots were staged, and these were remarkable for similarity of size.

For six red top Beetroots, long, 1st, Mr. Cole, gr. to the Right Hon. Earl SPENCER, Althorp Park, Northampton; 2nd, J. HUNTLEY, Esq., Cockburn Lodge, Hirsel, Coldstream; 3rd, Col. CORNWALLIS WEST (gr., Mr. Forder), Ruthin Castle.

For green top Beetroots only one lot was staged, a remarkable circumstance, the green Beets being mostly of fine quality, though a wet season might make the roots coarse.

A. A. SPEIRS, Esq., Houston House, Renfrewshire, (gr., Mr. J. Brown), had nice roots of green curled Borecoles; there were only two exhibitors, Dobbie's Victoria, a close, compact variety, shown by A. A. SPEIRS, Esq., secured for his gardener an easy 1st; Mr. J. IRELAND, Kilbirnie, Ayrshire, was 2nd with the same variety.

For any other variety of Borecole there were no exhibitors, but there were six lots shown in the Cauliflower or autumn Broccoli class, of three heads. Mr. COLE was 1st, having nice close heads of Autumn Giant; 2nd, Mr. BECKETT, with the same variety; and Mr. W. Waite, gr. to F. M. BROWN, Esq., Butterknowe, Southfields, 3rd.

In the class for Brussels-Sprouts plants and those for Cabbage or Colewort there was no competition, it being doubtless too early for these vegetables to be shown in the best condition.

For three Coleworts or Cabbages there were three exhibits, Mr. SPEIRS having splendid examples of the Imperial Winnigstadt; Mr. R. A. HORSPOOL, gr., Chirk Castle, was 2nd; and H. PARTRIDGE, Esq., was 3rd.

There was no entry for large Red Cabbage, and only two for the small variety, Mr. BECKETT being 1st with dwarf Red Dutch; and A. A. SPEIRS, Esq., 2nd with Dobbie's Dwarf Red. For Early Ulm Savoy there was no entry, and only one for Drumhead Savoy, Mr. C. DURUZ, Hotel Imperial, Hythe, being 1st with three fine heads of the latter. For any other variety there were two good exhibits from Mr. SPEIRS and Mrs. DENNISON, these taking the awards in the order of their names.

Carrots formed an interesting class, and were generally of fine quality. Mr. R. A. HORSPOOL's exhibit was splendid, and the variety the stump-rooted Smith's Scarlet Defiance; Mr. B. H. HILL was 2nd with excellent Veitch's Model; and Mrs. DENNISON 3rd, with Early Nantes.

For long-rooted Carrots Mr. B. H. HILL was an easy 1st with Sutton's Intermediate—very shapely root and of fine colour; A. A. SPEIRS, Esq., was 2nd with Dobbie's Intermediate; and Mr. J. KENNEDY, Trinity Bay, Millport, was 3rd with the last-named variety.

There were four lots of red Celery staged, the largest heads being by no means the best. Mr. BECKETT was 1st with excellent heads of Standard Bearer; A. A. SPEIRS, Esq., was 2nd with Dobbie's Selected; and Mr. Fyfe, gr. to Lady WANTAGE, Lockinge Park, 3rd, with Standard Bearer.

For dwarf Red Celery there was only one exhibit,

viz., Early Rose (Veitch), from Mr. BECKETT; and only two persons showed in the white class, Giant White being the best, and the exhibitor Mr. BECKETT; and Mr. R. A. HORSPOOL, 2nd, with Wright's Giant White.

For white dwarf Mr. BECKETT was again to the front with Early Gem, a beautiful exhibit.

Evidently this date is too early for Celeriac to be at its best in our gardens and no entries were made in this class or in that for Couve Tronchuda, and only two for a brace of Cucumbers, Mr. FYFE being an easy 1st with very fine fruits; and Col. CORNWALLIS WEST, 2nd.

Endive—Of these some excellent heads were staged, but there were few competitors, and the Rev. T. McMURDIE was an easy 1st for the curled leaved variety; and there were three exhibits of broad-leaved varieties, Mr. C. DURUZ, Hythe, being 1st with splendid examples; and Mr. BECKETT, 2nd; and Rev. T. McMURDIE, 3rd.

There was no entry for Eschalots shown in clusters, but there were eight for single bulbs, Mr. J. IRELAND being 1st with Dobbie's large Red; J. HUNTLEY, Esq., 2nd; and Mrs. DENNISON a close 3rd.

There was only one exhibit of six bulbs of Kohl Rabi, and this came from the Guardians, Hornchurch Homes, Romford (gr., Mr. A. Higgins), who had good bulbs of a green variety.

For Leeks there were four competitors, and these were remarkable for their great length and successful blanching. 1st, Mr. BECKETT, with Dobbie's Champion; Mr. SPEIRS, 2nd, with the same variety; and Mr. HORSPOOL, 3rd, with New Model. Some of the plants were nearly a yard long, but we are certainly inclined to give preference to the dwarfier, thicker-stemmed exhibits.

Cabbage Lettuces were excellent. Rev. T. McMURDIE was an easy 1st with Sutton's Supreme, a variety of fine quality and not coarsely leaved; Mr. R. A. HORSPOOL was 2nd with All-the-year-Round; and R. DIXON, Esq., Heath House, Twickenham (gr., Mr. A. H. Rickwood), was 3rd.

There were two exhibits of Cos Lettuces, each very fine. Rev. T. McMURDIE was 1st with Balloon; and J. T. CHARLESWORTH, Esq., Nutfield Court, Redhill (gr., Mr. F. W. Herbert), a close 2nd with Veitch's Brown Cos.

There were but few Mushrooms, Mr. E. BECKETT having the only dish, being awarded 2nd prize.

Onions were remarkable for size and finish, and Mr. E. BECKETT, who was 1st, had six very beautiful examples of Ailsa Craig; Mrs. A. BRANMELL, The Worthys, Kingworthy, Winchester (gr., Mr. Brown), was 2nd; and Col. Hon. C. HARBORD, Gunton Park, Norwich (gr., Mr. W. Allan), 3rd.

In flat varieties, Lord BOLTON, Hackwood Park, Basingstoke (gr., Mr. Bowerman), had probably the best bulbs in the show, the variety being Ailsa Craig; Mr. W. FYFE was 2nd, and Mr. BECKETT, 3rd, with white Spanish and very fine bulbs for this variety. Of red-skinned Onions only one lot was staged, and these came from Mr. BECKETT.

Excellent Parsley and some nice Queen Onions were among the exhibits.

For six long Parsnips, Mr. SPEIRS was 1st with Dobbie's Selected; and J. G. MARSH, Esq., Tamworth Road, Hartford, 2nd, with shorter roots.

In the round, short-rooted class, there was no competition.

For the best three dishes of Peas there was some splendid produce shown by Mr. B. ASHTON, Ormskirk, who had dishes of the varieties Alderman, Queen of Marrowfats, and Duke of Albany; Mr. R. A. HORSPOOL was 2nd with a fine dish of the varieties St. Duthue and Gladstone; 3rd, J. F. CHARLESWORTH, Esq., Redhill, with pods a little smaller than those of the last-named exhibitor, but of very fine quality.

The class for six dishes of Potatoes brought one exhibitor, Col. C. WEST (gr., Mr. Forder), who showed Gen. Buller, The Colonel (a very superior tuber), Windsor Castle, Sutton's Seedling, and Satisfaction.

For six dishes, six tubers each, of Kidney Potatoes, H. PADWICK, Esq., Manor House, Horsham, was 1st with clean, shapely tubers, having very fine British Queen; Mr. A. A. SPEIRS was a close 2nd, his best being The Factor, Herd Laddie, and The Crofter.

For three dishes of rounds there was only one entry. These varieties were excellent from Mr. R. Milner, gr. to Miss TALBOT, Margam Park, Port Talbot.

For kidney-shaped varieties there was more competition, Mr. A. A. SPEIRS being a good 1st, having a grand dish of Sutton's Ideal; T. LLOYD DAVIES, Esq. (gr., Mr. Geo. Crabbe), Park House, Addlestone, being 2nd, having handsome tubers of Supreme and Reliance; and Mr. W. I. CAYGILL, gr., Bejale House, 3rd.

Only one exhibit of Salsafy was remarked, that from Mr. BECKETT; and only one of Scorzonera, which came from Rev. T. McMURDIE—excellent for the time of year.

Spinach was represented by one dish only; and New Zealand, *Tetragonia expansa* from F. M. BROWN, Esq., Southfields, S.W.

Tomatoes formed a notable feature of the show, and the fruits were mostly of good size and quality; but only one yellow fruit was observed in this class. The 1st prize for four dishes of six fruits was taken by Mr. B. ASHTON, Chancellor being his finest dish; 2nd by Mr. B. H. HILL, Crediton, with Frogmore Selected as his best dish; and 3rd by Mr. H. FORDER, Ruthin Castle.

There were two exhibits of two dishes and varieties, and Mr. C. Page, gr. to J. B. FORTESCUE, Esq., Dropmore, was 1st, having Winter Beauty and Perfection; 2nd, Mr. SMITH, the Convent Gardens, Roehampton, with Perfection and Frogmore Selected.

Turnips formed an extensive class, there being seven-teen exhibits. Rev. T. McMURDIE was 1st with Model White Stone; 2nd, Mr. R. A. HORSPOOL; and 3rd, Mr. B. H. HILL with Veitch's Red Globe.

There was no entry of any of the Navet section, and only two yellow-fleshed varieties. Of these last Mr. B. H. HILL had very fine bulbs of Sutton's Perfection; and Mr. A. A. SPEIRS was 2nd with Golden Ball.

Marrows were not numerous, and for white and green, long varieties, Rev. T. McMURDIE was the only exhibitor, taking the 1st prize; and Mr. E. BECKETT was 2nd for round-fruited varieties. No Custard Marrows were shown, and no awards were made for Saladings.

Mr. BECKETT was 1st for a collection of named pot herbs, an interesting exhibit; and for any vegetable not in the above classes, Rev. T. McMURDIE staged very large white Spinach Beet; and Mr. A. A. SPEIRS was 2nd with the Chinese Artichoke (*Crosnes*) *Stachys tuberosa*.

Proceedings at the Luncheon.

A large company was present at the luncheon at 1 o'clock P.M., on Tuesday, including the Council, Committees and Judges.

During the subsequent proceedings Sir TREVOR LAWRENCE, Bart., President, amidst the greatest applause, presented the Victoria Medal of Honour in Horticulture to Sir Thomas Hanbury, whose munificent gift to the Society, of the late Mr. Wilson's garden at Wisley was announced a few weeks ago.

Sir THOMAS, in accepting the Medal, thanked Sir Trevor Lawrence for the kind words he had uttered, and described himself as unworthy of them and of the applause that had accompanied the gift. In regard to the gift of the garden, he had done little more than transfer a certain sum of money from one book to another, except that he had saved the beautiful garden of his friend, the late Mr. Wilson, from coming into the hands of the builder. It was now safe, and he hoped that it would remain for an indeterminate period in the hands of the Society, and that it may serve a useful purpose. Though living in Italy, said Sir Thomas, I am an Englishman, and in visiting England each year, I rejoice to see that among those who cultivate plants a love of Nature is rapidly increasing. Such a love was possessed by Mr. Wilson in an uncommon degree.

Sir TREVOR LAWRENCE next made some momentous remarks about Chiswick. He said that as that was probably the last time they would meet at an exhibition in those gardens, it seemed appropriate that he should say something about Chiswick and its relation to the history of the Society. It was a little over eighty years ago that the Society leased Chiswick from a former Duke of Devonshire. The garden was then 33 acres, it is now only 13 acres. The President then described the circumstances of the Society at that period, alluded to the 6 guinea Fellowship subscription, and went on to say that although the garden had been a great advantage to the Society, it had not been an unmixed one.

After speaking of the fêtes that were given at Chiswick, which, said Sir TREVOR, were chiefly for fashionable people, he went on to say that the affairs of the Society were in such a condition in 1830, that a committee of investigation was appointed, and this committee reported that a debt of £10,000 had been incurred by the formation and maintenance of the garden. One reason for the failure of the Chiswick

fêtes was doubtless that the weather was unpropitious on most occasions. It is recorded in Andrew Murray's History of the Society that on one occasion there was such a deluge that the regiment of Guards who were present got half-a-crown each for lending their coats to ladies until they reached their carriages, and afterwards there were picked up bushels of ladies' shoes and stockings that were drenched through and through, literally washed away from their wearers.

Sir TREVOR then alluded to the late Dr. Lindley's connection with the Society, and said that Lindley's name was honoured and esteemed wherever botany is studied throughout the world. He joined the Society in early life and in 1853 became a member of the Council and Secretary. One thing in connection with the Chiswick Gardens, said Sir TREVOR, they might recall with congratulation. He referred to the money that had been spent, perhaps somewhat lavishly, in sending collectors all over the world to get new plants, including such collectors as Douglas, Fortune, Hartweg, and many others. Amongst them all Douglas and Fortune were pre-eminent.

One defect there had been in the management of the Society—they had never known how to take care of their money. "Our friend, Sir Daniel Morris, was perhaps the first man who set himself to put the finances of the Society into a satisfactory condition." There had been other good Treasurers since then, and they had an excellent Treasurer now, but he hoped that if this Council, or any other Council, should show a disposition to waste money, the Fellows would pull them up sharply.

The PRESIDENT then said he thought they should recognise and acknowledge that the various Dukes of Devonshire had behaved to the Society just as noblemen might have been expected to do. Sir Thomas Hanbury's gift had not only provided the Society with a garden, but it had healed serious differences of opinion that existed in regard to which scheme should come first, that of the erection of a Hall or the formation of the Garden.

Mr. H. M. BATESON, a member of the Scientific Committee, said that the gift of Wisley had provided a great opportunity, that he thought the Council should seriously consider to see how best it might be utilised. The work done at Chiswick, said Mr. Bateson would of course be continued at Wisley; but he hoped that it would also be found possible to establish a research station. Raisers of new plants were working by scientific principles they did not fully understand, yet it is now known that the laws of heredity and variation can be determined to a degree that is of practical use to the gardener. If a proper research station could be established, then after a few years, not very many, those laws might be applied with as much certainty as they are now applied in cases of animals, &c. This was only one subject, but there were many more that required investigation and research.

Mr. CRUMP and Mr. MOLYNEUX then replied for the Judges and Committees.

TESTIMONIALS TO MR. HUMPHREYS.

Sir TREVOR LAWRENCE said that he had to call upon Mr. R. Dean to read the following address to Mr. Thomas Humphreys; and in doing so said that no servant of the Society had discharged his work in a more efficient manner than Mr. Humphreys had done:—

"This address, together with a cabinet canteen of cutlery and silver, and a Queen Anne tea and coffee service, is presented to Mr. THOMAS HUMPHREYS, Secretary of the Floral Committee of the Royal Horticultural Society, by those who names are appended, in warm appreciation of his services to the Floral and Fruit Committees of the Society, both at the Drill Hall, Westminster, and at the gardens of the Society Chiswick. They desire to heartily congratulate Mr. Humphreys upon his appointment as Curator of the Botanical Gardens, Edgbaston, Birmingham and cordially wish him and his family good health with increasing prosperity."

The address, which was presented by Mr. W. Marshall, was signed by the chairman of the Committees, and by Mr. H. B. May and Mr. R. Dean, chairman and Secretary of the Testimonial Committee; and by upwards of seventy members of the Fruit and Floral Committees.

The address was illuminated in a magnificent and appropriate manner; the margins contained coloured representations of Roses, Daffodils, Dendrobiums, and Grapes; whilst the old tree, which is as it were the trade mark of the Royal Horticultural Society, was reproduced at the top.

Following this presentation, Sir Trevor called upon Mr. GORDON, in the unavoidable absence of Dr. Masters, to read the following address from the "Press":—

"To MR. THOS. HUMPHREYS.

On your retirement from the Royal Horticultural Society's historical gardens at Chiswick, the under-mentioned representatives of the Horticultural Press desire to offer you an expression of their good wishes. They acknowledge with appreciation and thanks the assistance you have freely afforded them at the Society's exhibitions and on other occasions, and they beg you will accept the accompanying Roller-top Writing Desk with their autographs engraved upon a plate, as a token of their wishes for the future health, happiness, and prosperity of yourself and family. They hope that the work you will do in the Edgbaston Botanical Gardens at Birmingham will result in further popularising the art of gardening, and encouraging a greater love for plant-life.

E. T. Cook	M. T. Masters, F.R.S.
H. G. Cove	F. Moore
C. H. Curtis	R. Hooper Pearson
A. S. Galt	W. Thompson
J. Harrison Dick	H. H. Thomas
John Fraser	H. J. Wright
George Gordon, V.M.H.	W. P. Wright

Mr. HUMPHREYS expressed thanks for both gifts, and acknowledged the receipt of a cheque from the Royal Horticultural Society's Council. He was much encouraged by the fact that in taking up his new work he would have the good wishes of such a large body of eminent horticulturists.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair; and Messrs. Jas. O'Brien (Hon. Sec.), Norman C. Cookson, H. Little, H. A. Tracy, W. Boxall, W. H. Young, M. Gleeson, H. Ballantine, W. Cobb, T. W. Bond, and J. W. Odell.

There was a very small show of Orchids, only six being submitted to the Committee.

NORMAN C. COOKSON, Esq., Oakwood, Wylam (gr., Mr. H. J. Chapman), showed *Cattleya* × Lord Rothschild Oakwood variety (Gaskelliana × aurea), a very handsome and fragrant hybrid, differing from the original in having much broader petals, and rich yellow sides to the lip; also *Cypripedium* × *Nandii* (callosum × Tautzianum), white, tinged and spotted with rose.

HENRY LITTLE, Esq., Baronshalt, Twickenham (gr., Mr. Howard), showed *Cattleya* × *Wendlandii* Little's variety (Bowringiana × Warszewiczii), with a fine spike of four flowers. Sepals and petals rich rosy-purple, lip maroon-purple. Also *C.* × *Hardyana* Baronshalt variety, very fine.

W. P. BURKINSHAW, Esq., Hessele, Hull (gr., Mr. Barker), showed *Cattleya* × *Hardyana* Hessele variety, a very handsome purplish rose coloured flower with rich crimson lip, having golden lines and two yellow patches on the disc.

H. S. GOODSON, Esq., Westfield Road, Putney (gr., Mr. Chown), sent *Cypripedium* × *H. S. Goodson* (Swinburnei × *T. B. Haywood*). The flower was near to *C.* × *Swinburnei* in colour. Upper sepal greenish with dark lines; petals tinged rose on the outer halves, spotted brown on the inner parts; lip whitish tinged brown-rose.

THE GARDENERS' DINNER.

GATHERING OF NEARLY FIVE HUNDRED.

THIS event, which had been looked forward to for so long with so much interest, proved to be more successful than the most optimistic workers could have expected, especially considering the uncomfortable weather. The magnificent "King's Hall" at the Holborn Restaurant was incapable of accommodating all the guests, many of whom had to be given places in the galleries, underneath the galleries, or in any corner that could be used for the purpose. Rarely, if ever, have so many persons been gathered at a similar dinner in London as were present on Tuesday evening, and never have there been so many horticulturists at a similar function. The scene was indeed impressing.

The Chairman's table ran along the whole length of the room, and from this there were nine or ten tables stretching across the room at right angles. At the end of each of the cross-tables there was a Vice-Chairman selected from the Committee, and all of the tables were beautifully decorated with choice plants and flowers, supplied and arranged free of all cost by the firm of Messrs. JAMES VEITCH & CO.

Mr. LEOPOLD DE ROTHSCHILD, who had consented to preside, was unable to be present, and his friend, Lord DUNCANNON very kindly accepted the position. His Lordship was supported on the right by Sir Trevor Lawrence, Bart., President of the Royal Horticultural Society, and on the left by J. Gurney Fowler, Esq., Treasurer of the Royal Horticultural Society. Other gentlemen supporting included Messrs. Harry J. Veitch, Arthur W. Sutton, Leonard Sutton, Rev. W. Wilks, and a large number of influential gentlemen. We do not know the exact number that sat down, but it would be about 480. Notwithstanding the pressing invitations to be present that had been offered to ladies, very few representatives of the gentler sex took the opportunity to come, but there may have been a dozen in all.

When the dessert was served, Lord DUNCANNON called upon the Secretary, Mr. A. DEAN, to read several letters from gentlemen unable to be present. Captain HOLFORD, who was in attendance upon the King, sent a telegram expressing cordial sympathy. The following letter from Mr. LEOPOLD DE ROTHSCHILD was read:—

"Gunnelsbury, Sept. 26, 1903.

Dear Mr. DEAN,

When I had the pleasure of seeing you and Mr. Thomas yesterday, I explained to you fully how disappointed I was not to be able to keep my engagement to act as your Chairman next Tuesday, and although I am sure you have told your Committee all that I said to you, I cannot refrain from writing a few lines which perhaps you will read at your dinner, with my very best wishes for the happiness and welfare of all present.

I have been indisposed for about a month, and though I am virtually well again I am not strong enough to act as your Chairman, nor should I be able to do justice to such a pleasant task. But fortunately Lord Duncannon has kindly consented to take my place, and although it is my loss not to be present at your dinner, I trust it will be very great gain to you to have him as my representative, and shall not venture to intrude upon his privilege in alluding to the great progress that has been made in horticulture during the past twenty-five years, but I cannot refrain from expressing the sympathy I have for your craft.

This great gathering of men following the same occupation, coming from all parts of the United Kingdom to meet in friendly intercourse, is a testimony to the value of the early friendships began in the bothy and continued through life.

I have noticed how anxious every gardener is that the man whom he has taught should succeed well in life, and how, when he has succeeded, he comes back with feelings of affection and regard to the place where he first received his garden education. And then there is that pleasing interchange of knowledge and of new specimens, all of which proves that there is no petty jealousy in men of your occupation. This may be due partly to your studious habits, and to your interest in the world of science, but I am inclined to think that it is chiefly due to the softening influence of Nature, which brings harmony into your lives as it brings harmony into the gardens that you tend. Or it may be to the legend that, 'Deus ipse primus plantavit hortum,' which interpreted is: 'God Himself was the first to make a garden.'

Believe me to be yours very truly,

LEOPOLD DE ROTHSCHILD."

The DEAN OF LOSTESTER wrote as follows:—

"The report of my illness to which you refer is correct, and I only deferred my announcement to you so long as there was the faintest hope that I might attend the Dinner on Tuesday. That hope has given place to a bitter disappointment, and I have been ten days in bed with a severe bronchial cough, and although I am recovering strength, and am to go downstairs tomorrow, my doctor says that I shall not be in a condition to travel till the end of next week.

I have been anticipating long and anxiously a meeting with a representative body of those men, among whom I have found the most genial friendships and happiest enjoyment of my life.

Will you tell them that with an old man's blessing, and from a brother's heart, I pray they may ever cherish and communicate to others that love for a garden which brings health to the body, peace to the mind, and thankful worship to the soul. May the words spoken to me more than fifty years ago by my

beloved friend, Thomas Rivers, of Sawbridgeworth, be as true to them as they have been to me, 'Your delight in the flowers will never leave you.'

Believe me to be ever yours sincerely,

REYNOLDS HOLE."

The CHAIRMAN then proposed the toast of "His Majesty the King," and nearly 500 joined in singing a verse of the National Anthem. The next toast was "Her Majesty the Queen, the Prince and Princess of Wales," &c.; and again the company joined in singing a modified version of the second verse. After this was over, the Chairman announced the receipt of a telegram from Mr. L. DE ROTHSCHILD, containing a warm greeting, sincerely regretting his absence, and expressing his best wishes for a good meeting. Mr. de Rothschild, said the Chairman, wished to be present in spirit, and begged the Committee to supply wine to every guest as a gift from himself.

Rising to propose the next toast, which was that of "THE ROYAL HORTICULTURAL SOCIETY, and all other Horticultural Societies," Lord DUNCANNON expressed his sorrow that the gathering had been disappointed in their Chairman; but the company were evidently satisfied that they could not have had a better substitute.

Lord DUNCANNON said that next year would see the centenary of the Royal Horticultural Society, and mainly owing to the liberality of Baron Schroeder, a new Hall was now being built, which it was hoped would be completed next year. This would cost £10,000, and of this sum £24,000 had been already given or promised leaving a sum of £16,000 remaining. The Council would be very glad to receive contributions to this fund. In addition to this, and owing solely to the liberality of another amateur horticulturist, Sir THOMAS HANBURY, the Society was provided with a new garden, from which it was expected important results would be obtained. The Society's prospects were now better than they were ever, thanks to the President and Secretary, and a loyal and energetic Council. The Society had done much to popularise gardening in Britain. Half a century ago gardens were the luxury of a few, now they are enjoyed by the many. Indeed a home seemed not a home without a garden.

Horticultural Societies in different parts of the kingdom were also doing a work that was not so apparent on the surface. Not only do they provide the joys obtainable from the exhibitions, but they encouraged artisans and others to maintain and care for gardens of their own. The Royal Caledonian Horticultural Society, which was established in 1828, had announced its intention to hold an international exhibition in Edinburgh in September, 1905, at which he (the Chairman) was glad Colonial exhibits were to be a feature.

In regard to gardeners (he would say it with all respect) they sprang from the industrial classes. The middle-aged among them, at any rate, had not had the advantages of a thorough education, but in spite of this they had succeeded in raising the art and practice of gardening in the British Isles as high or higher than it is in any other part of the world. The gardener's position in regard to the provision of necessities and delicacies in fruit, vegetables, and flowers, was such that he was often treated more as a friend than as a servant by his employer. Living in isolated places, he knew how they would enjoy a social evening like that, affording opportunities for a hearty handshake from many an old friend from distant parts of the country. They had an Irish landlord in the chair (said Lord DUNCANNON), and they must suffer for it. "Ireland is always with us." Very much had been done in Ireland to promote horticulture. In his lordship's district, nearly all the cottagers have gardens, this, notwithstanding "the pig is under the dresser, and the hen hatching in the saucepan." The interior of the cottages had also been vastly improved. Apples succeeded well, and there was generally a superabundance of Plums. They had (in his lordship's district) a warm climate and good soil. Fruit cultivation on a large scale might be made remunerative, but at present there was a difficulty in providing a good market, the transit to London being rather slow. His lordship next bore testimony to the qualities of

his own gardener (Mr. Weston), who had always been willing to impart to those around him the knowledge and love of horticulture he himself possessed. The Chairman said that his own garden was a beautiful one, having natural advantages, but these had been enhanced by "the gentle comrade of my married life," who loves and studies her garden. Lord Duncannon concluded by promising a hearty welcome to any who might visit Kilkenny and would call upon him.

The Rev. W. WILKS, M.A., said that Lord Duncannon had referred to the ups and downs there had been in the history of the Royal Horticultural Society, but he thought the time had now come when they should forget the "downs." It was true that in 1887 the life of the Society was practically despaired of. Then Sir T. Lawrence, Baron Schroder, Mr. Veitch and others came, and put their shoulders to the wheel and inaugurated a period of prosperity that was still increasing. In 1887 there were 770 subscribing Fellows, at this moment there were almost 7,000. In 1887 they had a debt of £12,000, at this moment they had an income of £150 a year from accumulated funds. They had also an income from subscribing Fellows of £7,000 a year. All this growth had been caused by the Society having in 1887 abandoned all side-shows, and concentrated all its energies upon gardening pure and simple. So long as the present Council and the present influences are at work at the core of the Society it would continue to prosper. Well, then, the Society had two acknowledged wants. First a new Hall of its own, and secondly a better garden of its own. These two wants threatened to tear the Society asunder, and as if they would destroy each other. "They were like twins at the birth struggling for primogeniture, and neither willing to give precedence to the other. Now they hope to have both the Schroder Hall and the Hanbury Garden. The two gifts were liberal, and each has cost the giver £5,000. But great gifts involve large responsibilities. It now remained for the rank and file of horticulturists to complete the Hall and equip the Garden. His Lordship had said they required £16,000, but he would say they wanted at least £20,000, including £5,000 for the garden. Were there not plenty of rich ladies and gentlemen who loved their gardens, like Lady Duncannon, who could give the paltry sum of £20,000? Could not those gardeners to rich men who can spend much money on their own gardens and on their horses, give their employers a hint that help is needed by the Royal Horticultural Society? They could not use their accumulated funds, for a very good reason. The up-keep for both Hall and Garden will involve an increased expenditure. Take the funds away and the Society would be left with a greater annual expenditure and a lessened income.

Mr. F. W. BURBIDGE also responded to this toast and said that though Ireland was not his mother, she had been a good step-mother to him for twenty-four years, and some of the most beautiful fruit he had ever seen was grown in Ireland. He would like the Royal Horticultural Society to be known as the Royal Horticultural Society of Britain and Ireland (not London) to extend its borders, and have all other Horticultural Societies affiliated to itself. He would do his best when he returned to Dublin to induce the Royal Horticultural Society of Ireland to become affiliated.

"Gardening and Gardeners, Amateur and Professional," was the next toast, proposed by Sir TREVOR LAWRENCE, Bart., who laid emphasis upon the development that has taken place in horticulture in the past fifty years, as was shown by the appearance of the tables that evening, and by the window-boxes and other evidences of gardening that were to be seen throughout London, in the East as well as the West End. Gardening had good influences. His experience had been that where there was a good and well-cared-for garden attached to a cottage, there was usually happiness in the cottage itself. If the garden was full of dead dogs and old saucepans, there was something wrong also inside the cottage. The art and craft of gardening, said Sir Trevor, was understood in England in a way it is not in any other country. Swanley turns out a number of lady-gardeners, said Sir

Trevor. They would hold out the hand of fellowship to them, especially if they won't interfere too much with the Apples. Sir Trevor then got perilously near a discussion of a very vexed question. He actually mentioned "fiscal policy," and then Mr. and Mrs. Chamberlain's interest and love for gardening, and hoped that when votes would be presently bandied about that the claims of a good gardener would not be forgotten!

Mr. T. CHALLIS, Wilton House Gardens, in reply, made an excellent speech, but in commencing said that he felt as gardeners did after that week of frost, wind and snow in April—fruitless, hopeless and nearly speechless. He was not quite sure to what gender the gardener now belonged—masculine, feminine or neuter. He supposed he must reply not only on behalf of the man with the blue apron, but also of his sisters of the short skirts. He thought that they should welcome the ladies and work cordially with them, and pray also that they may be speedily transferred to that other state designed by Providence for them to enjoy, and for which they were pre-eminently suited. His thoughts next ran back to the "palmy" days of Chiswick, the associations of the place, and the men that had been connected with it. In regard to the future they were all grateful for the new Hall, and they were grateful to Sir Thomas Hanbury for the garden. The nurseryman's ideal was a good exhibition-hall, but the gardener's ideal was a school of horticulture, and he concluded with an appeal for the formation of such a technical, scientific, and practical school at Wisley. Mr. MCINDOE also replied to this toast.

"THE GARDENING CHARITIES" was next proposed by Mr. R. DEAN in an earnest, pleading speech of some length. He referred to the work that is being done by the various charities, remarking that it seemed hard to see reason for human suffering, but it did appear as if man was bound to spend the last few years of his life in comparative helplessness in order that the spirit of helpfulness might be engendered within us. Mr. HARRY J. VEITCH replied for the Gardeners' Royal Benevolent Institution, Mr. H. B. MAY for the Royal Gardeners' Orphan Fund, and Mr. C. H. CURTIS for the United Horticultural Provident and Benefit Society.

The next toast was that of "The Horticultural Press," proposed by Mr. OWEN THOMAS, V.M.H., in a rather long carefully written speech. Dr. MASTERS, F.R.S., and Mr. GEORGE GORDON, V.M.H., should have replied, but Dr. MASTERS was unable to be present, and the work fell to Mr. GORDON.

Mr. W. CRUMP next proposed "The Horticultural Trade," and this was responded to suitably by Messrs. A. W. SUTTON, V.M.H.; GEORGE BUNYARD, V.M.H.; G. DICKSON, and PETER KAY, V.M.H.

"The CHAIRMAN," proposed by Mr. A. DEAN, was received with tumultuous applause and musical honours, sung lustily.

Then there were the toasts of "Mr. Owen Thomas" (Chairman of the Dinner Committee), and "Mr. Alex. Dean," Secretary (proposed by Mr. R. W. KER).

The singing of "Auld Lang Syne" brought the proceedings to a close about 11 o'clock P.M., and owing to the excessive number of the speeches, many of which were too long, it was found impossible to have as much music as the guests would have liked, a fact that accounted for some degree of impatience exhibited towards the close of the proceedings.

Apart from this the event was absolutely successful, and a testimony to the work that has been done by Mr. Alex. Dean and his committee. The proceedings were unofficial, and were not connected with the Royal Horticultural Society.

TRADE NOTICE.

DISSOLUTION OF PARTNERSHIP.—The partnership heretofore subsisting between William Birkenhead and John Birkenhead, carrying on business as nurserymen at Park Road, Ashton-on-Mersey, and Fern Nursery, Sale, under the style or firm of "W. & J. Birkenhead," has been dissolved by mutual consent. Mr. William Birkenhead will continue the business mentioned above. Mr. John Birkenhead will carry on the business of seedsman, &c., at 19, Washway Road, Sale.

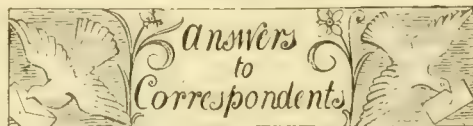
Obituary.

CHARLES MARR.—We regret to record the death of Mr. Charles Marr, who was foreman of the royal kitchen gardens at Frogmore for the long period of fifty-two years, and retired on a pension on July 1, 1899. On that occasion he received an illuminated address and a purse of gold from the staff and *employés* at the Royal Gardens; he was also a recipient of the late Queen's Jubilee Medal. Since leaving Windsor he had resided at Bagshot with his youngest daughter (Mrs. Webb), and although unable to take outdoor exercise, up to recently he had enjoyed fairly good health; but a few months ago he unfortunately broke his arm simply by turning in bed and throwing his arm across a chair, and this accident, coupled with his advanced age, affected his health. He gradually became weaker, and passed peacefully away on Wednesday, September 23. He was followed to the grave, among relatives and others, by several of the garden staff of Frogmore.

MR. W. SHAND.—We regret to announce the decease of Mr. William Shand, nurseryman and seedsman, of New Street, Lancaster. The death took place on Wednesday morning, Sept. 23, at his residence, Woodlands. Mr. Shand had been in failing health for some time, the general breakdown really dating from the death of Mrs. Shand three years ago, whose loss at the time he acutely felt. The deceased was the son of a farmer, and was born at Pittenkerrie, near Banchory, Kincardineshire, some sixty-five years ago. Shortly after completing his apprenticeship he received an appointment as assistant gardener at Dun Echt, the Highland seat of the Earl of Crawford and Balcarres, and from there he entered the service of Messrs. Lawson, Ltd., the famous Edinburgh nurserymen.

Leaving Edinburgh, he received his first appointment as head gardener to Sir Robert Duff (Governor of New South Wales), of Fetteresso Castle, Stonehaven; and subsequently he was successful in receiving a similar appointment at Lowther Castle, having been engaged by Earl William, the grand-uncle of the present Lord Lonsdale, in 1872. Ten years later he came to Lancaster and assumed a partnership in business with the late Mr. Halstead, Penny Street and Greaves Nurseries. In 1885 he started business on his own account, and subsequently acquired the Greaves Nurseries. Since then he had, by diligence and large experience, built up a large trade connection, the ramifications of which extend all over the North of England.

Mr. Shand leaves a family of three sons and three daughters—two of the latter being married. He was for more than forty years a correspondent of this journal.



* * Owing to the extraordinary pressure on our space, and to the necessity for going to press at an earlier date, owing to the large increase in our circulation, several subjects are necessarily postponed till our next issue.

ADIANTUM FARLEYENSE—YEAR OF INTRODUCTION:

W. T. This is a variety of *A. tenerum*, a native of Barbados, and was introduced in 1865 by T. D. Hill, Esq., of London, by whom it was received from his friend, T. G. Briggs, Esq., of Barbados, who resided at Farley Hill in that island. It was a seedling raised at that place, and not *fero natura*. The plant was described by the late T. Moore in the *Gardeners' Chronicle* for August 4, 1866, p. 730.

ANEMONE GROWER OF LINCOLNSHIRE. A. Work-sop. Mr. Gilbert, Lincoln, probably is meant.

ARTIFICIAL MANURE FOR AN AGED ORCHARD ON A CLAY SOIL: C. G. D. As a matter of fact artificial manure will do no good, at least at first and before the mechanical texture of the soil has been altered by working into it sand, finely sifted coal-ashes, quicklime and straw farmyard manure. These substances should be incorporated with the soil above the roots, necessarily at but small depth; but midway between the stations the soil may be moved two and three spits deep. Marl, which contains as its active principle lime, does good, and may be applied at the rate of 80 cubic yards per acre. If the orchard is under turf, paring and burning cleanses the soil of injurious acids, destroys grub-larvæ, liberates plant food from the minerals of the soil, greatly improve the texture of clay soils. The loss of nitrogen by burning is readily made good by liberal manuring. The paring is best done by a paring plough, and not more than 3 inches in depth should be taken off. Once bared of turf, it would be advisable to under-plant with small fruit bushes, Strawberries, &c. It would be as well to ascertain if the land needs relieving of moisture by draining (rubble drains). If not under-cropped with fruit bushes, green crops, such as Mustard, Rape, Clover, and Rye, may be grown and ploughed in, thus affording much amelioration of clay soils. Potash especially and superphosphate of lime should be used in conjunction with the farmyard manure.

CHRYSANTHEMUM-LEAVES DISFIGURED: T. B. No disease, no fungus; probably result of sudden change of temperature.—W. N. No organic disease, no fungus. Probably caused by over-strong manures, or change of temperature. M. C. C.

CHRYSANTHEMUM SPORT: E. B. The flowers you describe as being from a sport from the variety Madame Marie Masse, being of rich bronze and red colours, are very attractive. You should show similar ones to the Floral Committee of the National Chrysanthemum Society.

CUCUMBER-LEAVES WITH BROWN BLOTCH UPON THEM: G. H. Where have you been these two or three years past, that you have not read or heard of the Melon and Cucumber-blotch? At present there seems to be no method known of preventing an attack, nothing externally being observed till the mischief is done, the fungus developing between the upper and lower epidermis. Destroy the plants, sulphur the house, and grow no more Cucumbers or Melons therein for three or four years.

DENDROBIUM FINDLAYANUM SPOTTED: H. H. The specimen sent seems to indicate that the plant has not had sufficient fresh air, and has been kept too constantly in a warm, moist house. We suggest that you should put the plants so affected in a cool, sunny greenhouse, and keep them perfectly dry until they lose all their leaves on the mature growths. Keep them cool and dry until they begin to grow again, when you should afford them plenty of heat and moisture. After growth is well advanced, remove all damaged parts.

EVERGREEN UNDERGROWTH WHERE SHADE IS DENSE: J. C. You would find *Scolopendrium vulgare* and *Vinca* major more enduring than those you have tried and found wanting.

FUNGI: L. Steele. Agarics in bad condition, and no information whether growing on ground or on wood afforded. 1, no stem and no information afforded—possibly a *Pholiota* sp.; 2, *Pholiota squarrosa*. M. C. C.

GERMAN GARDENER: R. B. Your friend would stand but little chance of obtaining an important post here, unless he can speak the English language, is acquainted with the climate, and the methods of cultivation prevailing in this country. Situations with a wage of £100 a year are not common, and moreover they are difficult to obtain, the competition for anything superior being very severe. The publisher of the *Gardeners' Chronicle* would send a copy of the paper and tariff of advertisement charges on application.

HEATING A RANGE OF GLASS: W. M. We certainly should not hinder the flow of the water

by having 2-inch mains to supply pipes 3 and 4 inches in diameter, but have them of 3 inches diameter at the least, and set the boiler some distance below the floor of the house. We assume that the houses are span-roofed, and entered by doors in the centre of each partition, and for this reason two flow and two return pipes are needed.

HOLLY STEMS TO KILL: G. O. Bore a few large holes with an auger or centre-bit in the stems, beginning at the ground level, and at slight depth insert some common salt or creosote into these holes. Sulphuric acid would have an equally fatal effect, but it is dangerous in handling.

INJURY TO A GARDENER FROM HANDLING A WALL CREEPER: A. B. The plant of which foliage is sent is *Rhus Toxicodendron*. It should not be handled without thick gloves, and ought to be banished from all ordinary gardens. It was sent out in error many years ago as a species of *Ampelopsis*.

LYCORIS: C. S. The specimens of *Lycoris* received by us and sent on to Mr. Baker are too withered to form a definite opinion about. The special features of *L. Sprengerii* seem to be the long pedicels and the bluish-purple flowers; of *L. incarnata*, the short pedicels and the rosy-pink flowers, with narrower perianth-segments than in *L. squamigera* (*Botanical Magazine*, t. 7547).

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—T. H. *Inula glandulosa*.—Stratford Road. *Calceolaria pinnata*.—L. Bide. Red, *Lobelia cardinalis*; blue, *L. syphilitica*.—J. D. *Sambucus racemosa*, native of the mountains of Continental Europe. The variegated leaf is that of *S. nigra* (common Elder) probably.—C. D. *Midlothian*. *Oncidium* × *Mantini*, a very handsome natural hybrid, occasionally imported with O. Gardneri and other Brazilian Orchids. It is uncommon, and therefore of greater value than O. Forbesii and others of its class.—H. W. J., Buckingham. 1, *Denstedtia davallioides*; 2, *Pellaea rotundifolia*; 3, *Doodia aspera*; 4, *Aspidium vestitum*; 5, *Lastræa Sieboldi*; 6, *Cassia corymbosa*; 7, *Haworthia margaritifera*.—Shalstone, Bucks. 1, *Selaginella viticulosa*; 2, *Woodwardia radicans*, so far as we can judge without seeing fertile frond; 3, *Scolopendrium vulgare* (Hart's-tongue Fern); 4, *Lastræa trichodes*; 5, *Osmunda gracilis* (spectabilis); 6, *Polystichum angulare*; 7, *Onychium japonicum*. Ferns, especially when sent in immature specimens or portions of fronds, are not easy to identify; fertile fronds should be sent. We give the recognised garden names, although often species have a dozen synonyms. Your letter and enclosure received. Thanks.—W. C. & Sons. *Corylus Avellana*, var. *contorta* (see *Gardeners' Chronicle*, 1874, fig. 32).—Anxious. 1, *Lotus peliorhynchus*, so far as we can judge without flowers; 2, *Ruellia Desvossiana*.—J. M., Notts. 1, *Cyrtomium Fortunei*; 2, *C. falcatum*; 3, *C. caryotideum*. These are included under *Aspidium*, but the names given are commonly used; 4, *Jacobinia* (*Justicia*) *carnea*; 5, *Sedum spectabile*; 6, *S. Sieboldi*.—No name or initials. *Cichorium intybus*. T. A. The yellow is one of the hybrid *Montbretia crocosmæflora*. The double *Achillea ptarmica flore-pleno*.—W. B. The *Cypripedium* will be remarked on later.—E. W., Darlington: Probably the variegated Snowberry; 2, *Ligustrum lucidum variegatum*; 3, *Elæagnus pungens variegatus*; 4, *Berberis Thunbergii*; 5, *Cephalotaxus pedunculata*; 6, *Kerria japonica variegata*; 7, *Abies concolor*.—R. O. R. 1, Myrtle; 2, *Ruellia Portellæ*; 3, *Hedychium*, probably *Gardnerianum*, send when in flower; 4, *Helix soleirolii*; 5, *Adiantum Paotii*; 6, *Asparagus decumbens*.—A. B. C. 1, *Escallonia macrantha*; 2, *Olearia Haastii*; 3, *Andromeda (Pieris) japonica*; 4, *Hibiscus sinensis variegata*.—E. W. R. 1, *Agapanthus minor variegatus*; 2, *Carex japonica variegata*; 3, *Eulalia japonica variegata*; 4, *Dracena Lindenii*.—Amateur. 1, *Tritoma uvaria*; 2, *Veronica Hendersonii* of gardens; 3, *Chrysocoma (Aster) Linosyris*; 4, *Sedum*

spurium; 5, *Helianthus rigidus*.—C. F. Drayton. *Lilium tigrinum Fortunei*; *Rubus rosafolius*.—A. G. S. 1, *Cotoneaster affinis*; 3, *Rhus Toxicodendron*, be careful how you handle it; 3, *Cotoneaster microphylla*; 4, *Linaria macedonica*; 5, *Andromeda acuminata*; 6, *Andromeda calyculata*, but without flowers.

PELARGONIUM BROWN-SPOTTED: T. Smith. The brown spots are caused by a mite puncturing the epidermis. Kill the mites by fumigation or washing with diluted tobacco-water. Give close attention to the plants in the event of further attacks. *Gloxinia* leaves sometimes suffer similarly.

ROSE STOCKS: Well Green. It is against our rule to recommend dealers, either native or foreign. You should advertise your wants in the *Gardeners' Chronicle* or in some French or German gardening journal, or watch our advertisement columns.

RUNNER BEAN: F. H. Randall, Sidbury Lodge Gardens, Edware. The pods you send as being those of a cross between Sutton's Tender-and-True and White Czar have a good appearance and are nearly stringless, but whether the variety is better than existing ones could only be determined by a trial with standard sorts at Chiswick or elsewhere, as was recommended by the Fruit and Vegetable Committee when the variety was before them on September 15.

SITUATION AS GARDENER IN SOUTH AFRICA: Constant Reader. The obviously proper course is to advertise in several Cape newspapers and in this journal.

TO RAISE FERNS: Amateur. When the spore-cases which you will find on the back of the Fern-fronds have become dark-brown or black, rub out the spores, which are extremely minute, on to a sheet of white paper, and dry them slightly under a tumbler in the sun, taking care in so doing not to let the wind carry them away. Prepare some seed pans by crocking them with finely-broken potsherds or soft brick, put lumpy peat over these, then almost fill up with the nodules of sandy peat that will not readily pass through a half-inch-meshed sieve, discarding those that are larger, and over this put a thin layer of very finely-sifted sand and peat. Make firm and level, and sow the spores very thinly, which press in, but do not cover with either sand or soil, and apply water by allowing it to rise through the holes in the bottoms of the pans, but not quite to the surface. Set by to drain, then place in a cold-pit or damp part of a greenhouse, or in a common garden-frame. Fern-spores may be germinated on the upper surface of very soft red bricks set in shallow pans containing water, simply placing a very thin layer of sand on the bricks; even that may be omitted without detriment to germination.

UNDERGROUND TUBERS: A. J. S. Ground-nut or Pig-nut, *Carum bulbocastanum*.

VERMIN PASTE: A. Workshop. The addresses of the makers and vendors of the sort named are not known to us.

VINE-LEAVES: W. N. Always common, but never well accounted for; no real disease; most likely caused by sudden chill. M. C. C.

VIOLETS DISEASED: N. H. Cooke. See answer to "Mot" in this column in our last issue.

"WHITE HEATHER": W. S. These "popular" names are a source of endless confusion. The plant may be *Erica cinerea*, of which a white-flowered variety is often met with; or a white variety of *E. carnea*; or *E. Tetralix alba*, or *E. vagans alba*, or of the white variety of *Calluna vulgaris*, common Ling, this is perhaps the commonest white Heather. Unless you send us a specimen we are unable to give you its proper name.

COMMUNICATIONS RECEIVED:—E. M.—G. W.—C. H.—H. Frank, Zurich.—F. W. Moore—G. B. & Co.—C. H. W.—J. O'B.—T. H. H.—J. G.—Cunninghame, Fraser & Co.—G. H.—J. S.—C. C.—A. H.—A. P.—J. E.—S. R. S.—J. F.—H. J. P.—E. W. D.—W. R., Kensington—R. N.—W. H. C.—J. M.—Vilmorin Andrieux et Cie.—Expert—R. B.—Remington, Type-writer Co.—J. O'B.—J. A.—H. C.—J. C.—A. H.—F. W. M.—C. H. W.—G. Bunyard—D. R. W.—J. E.

(For Markets and Weather, see p. 2.)

THE FRUIT AND VEGETABLE SHOW.

OUR PORTRAITS.

IN connection with the Vegetable Exhibition and Conference held on Tuesday last at Chiswick, we have reproduced the portraits of a few British gardeners who are good "all-round" cultivators, and who have shown a special preference and interest for the cultivation of choice vegetables and fruit. In the present day, when there appears to be an inclination in some quarters to regard the cultivation of kitchen garden crops with a certain degree of indifference, it is good policy on the part of the Royal Horticultural Society to endeavour to show by the proceedings of the past week that kitchen gardening forms one of the most important departments that can be undertaken by a first-class gardener. When a gentleman is about to engage a gardener, he very naturally expects that, whatever additional capabilities the candidate may possess, he at least will be able to produce first-class crops of fruit and vegetables.

As examples, therefore, to young men about to commence their work, the careers of the following gardeners may be studied with profit:—

MESSRS. ED. BECKETT, J. GIBSON, & C.

The two lions in the Vegetable world to-day, especially from the exhibition point of view, are of course Mr. Ed. Beckett, gr. to Lord Aldenham, Aldenham House, Elstree, and Mr. J. Gibson, gr. to R. W. Hudson, Esq., Danesfield, Marlow. But it is not necessary to publish separate portraits of them in this issue, as, being members of the Committee responsible for the Gardeners' Dinner, their photographs appear on our Supplementary Illustration. The same may be said of Mr. James Hudson, who was the author of a paper read at the Conference on the cooking of vegetables, Mr. James F. McLeod, Mr. Owen Thomas, Mr. Geo. Woodward, Mr. Norman, Mr. Fyfe, Mr. Markham, &c.

MR. BEN ASHTON.

The following particulars, furnished us by Mr. Ben Ashton, gr. to the Earl of Lathom, Lathom House, Ormskirk, Lancashire, are interesting:—

"A native of Nottinghamshire, I commenced my gardening career at a very early age in the gardens of Babworth Rectory, near Retford, in March, 1867, under the late Job Smith, who was a pupil of the late T. Speed, of Chatsworth. Mr. Smith was a very able gardener but a very severe taskmaster, which was perhaps a good thing for a somewhat mischievous youngster. After serving an apprenticeship of four years I went to Little Ponton Hall, Grantham, under the late Jos. Towers, but remained only a few months, going afterwards to Nocton Hall, Lincoln (at that time one of the seats of the Marquis of Ripon), as kitchen-garden foreman under Mr. Ridsdale, where I stayed nearly two years. From Nocton I went as journeyman under that celebrated Pine and Grape-grower, the late Joseph Jefferson, Carlton House Gardens, Worksop. If space permitted I should have liked to give some details of Mr. Jefferson's method of Pine-growing. I had not been with Mr. Jefferson many months before he gave me charge of the Pine-stoves and Vineries, and I need hardly say that I was then in my element. I remember his sending me to a noted local show with a quantity of fruit, and his joy at my coming back with eleven 1st and two 2nd prizes for thirteen entries. After serving Mr. Jefferson a little over two years I went as first journeyman at Ashburnham Place, Battle, Sussex, under Mr. Maxton, where I gained much useful knowledge in hardy fruits, &c.

"From Ashburnham I went as flower-garden man to that fine old gardener, Mr. Jno. Derricutt, Pye Nest Park, Halifax, who I am happy to say is now enjoying a well-deserved pension from the Gardeners' Royal Benevolent Institution, of which he was a staunch supporter for many years. After five months I was made foreman. I may here say that Mr. Derricutt was the finest propagator and plantsman that it was ever my good fortune to serve under. He was also an expert Pine and Grape grower, which will be readily understood when I say that he grew in 11-inch pots Black Prince Pines weighing as much as 10 lb. 8 oz., a photo of which I possess at the present time. I left my kind master and friend at Pye Nest after two years' service to go as foreman to another noted gardener, Mr. Robt. Milne, Vale Royal, Northwich, Cheshire, and while with Mr. Milne I created a mild sensation by growing in 7-inch pots Poinsettias with bracts measuring 22 inches in diameter. Many other things were at that time grown well at Vale Royal, notably Calanthes, specimen Mignonette, Eucharis, Begonia Ingrams, &c., in addition to fine Grapes and Peaches; carpet bedding was done on a large scale.

"From Vale Royal I went as foreman to Thurocroft Hall, near Rotherham, where I only remained a few months; after which I went as head gardener and manager to the late Selina, Viscountess Milton, Kirkham Abbey, York, in March, 1881. Her ladyship dying in 1883, I remained with her son, the present Lord Hawkesbury of Hazelbech till March, 1885, when I left to go as gardener to Lord Howard of Glossop, Glossop Hall, Derbyshire, where I remained eleven years. I may here remark that Glossop, from a gardener's point of view, is one of the worst districts in the British Islands, being wet, cold, and the atmosphere soot-laden; successful vegetable cultivation there was quite out of the question.

"I left Glossop to come to Lathom in January, 1896, and, as the story says, 'have lived happily ever since'—happy because I found at Lathom a soil that with good cultivation will grow most things fairly well, and because I found most kind and appreciative employers, who were ever ready to recognise and give a word of praise for whatever is good upon their table, whether fruit, vegetables or flowers.

"Of all vegetables the one perhaps that I cultivate best is the Potato, of which I grow every year about fifty varieties, and for which I have won many prizes, including the Silver Cup (of which I own two) of the Liverpool District Farmers' Club show, which has perhaps the finest Potato show in the country."

MR. W. L. BASTIN.

Mr. W. L. Bastin, gr. to Sir Alex. Henderson, Bart., Buscot Park, Berkshire, is well known as an exhibitor of kitchen-garden crops and fruit. The particular difficulty with which he has to contend is due to the soil of the garden being of a very heavy nature, and resting on a subsoil of clay. He says:—

"I have had the privilege of serving in good all-round gardens since I was fifteen years old. My aim has been to become a good practical and theoretical gardener. I have gained my experience as journeyman and foreman at Preston Hall, Maidstone, Kent; Swyncombe Park, Henley-on-Thames; Haydon Hall, Eastcote, Middlesex; Fetcham Park, Leatherhead, Surrey; and Ashgrove, Sevenoaks, Kent. For some years I was gardener to Admiral Pringle, Digswell, Hertfordshire; and I left that place to take charge of the

gardens of Sir Alex. Henderson, Bart., M.P., Buscot Park, in 1897. These are good gardens, and we have a great demand for fruit and vegetables. I have also given some attention to the growing of vegetables for exhibition at the principal shows—London, Shrewsbury, Wolverhampton, Bristol, Cardiff, and Reading—where I have won gold and silver medals and numerous other prizes; also Silver Cup and other high honours at the Temple for fruit and vegetables. I was awarded a Silver Knightian Medal by the deputation from the Royal Horticultural Society in July, 1903, at Cardiff, for a collection of six varieties of vegetables, which I was told was an unusual distinction to be awarded a collection of only six varieties."

MR. NORMAN DAVIS,

although specially well known as a first-rate cultivator of Chrysanthemums, has distinguished himself also in the growing of culinary Peas under glass for consumption in the month of May, being the only cultivator nearer than the Channel Isles who has grown such a crop in anything like the quantity (see *Gardeners' Chronicle*, June 13, 1903, p. 369). He says:—

"I was born at Brixton in 1850, which at that time was principally inhabited by City merchants, and horticulture flourished. My father and grandfather were merchants and keen gardeners, and my love for gardening was inherited. Before I could be started in life misfortunes had overtaken us, and on leaving school at the age of fourteen I had little to depend upon but my own energies. I was, however, placed with an uncle, also a City merchant, where I remained some twenty years, gaining considerable experience in commercial life. Then, upon losing my mother, the home was entirely broken up, and I found myself in lodgings at Walworth; and it was here that my fate as a Chrysanthemum grower was decided. My landlord was a keen amateur 'Mummiest,' exhibiting in his small way at the local shows; and it was not long before I was as keen as he. I spent in his garden much of my spare time, and together we often visited the then far-famed Temple Gardens, as well as such nurseries as those of Messrs. Salter, Adam, and Forsyth, bringing home cuttings or plants of the novelties. Upon marrying in 1872 I found more scope for the practice of my hobby, but my sympathies were not confined to Chrysanthemums. I have reared collections of many kinds of florists' flowers. Finding gardening expensive and beyond my means, I started as many others have done, and made my hobby pay for itself; and finally left City life and started as a professional grower. My success as a Chrysanthemum grower, however, is not the interest of the moment.

"After 1890, finding competition growing keener every year, I decided upon extending my business, and came to Framfield, in Sussex, in 1896. I tried market gardening under glass; scarcity of skilled labour in country districts rendered progress slower than I wished, but I think I can fairly say I have turned out various crops with some amount of success. Strawberries (these without heat), French Beans, and Tomatos, all paid well, and always will do, so long as they are well grown and properly marketed. My chief success, however, and what has proved most interesting to me, has been the growing of culinary Peas under glass for marketing in May; these I have grown for six years in succession, and no crop has paid me better: I have been able to

send up as many] as 100 bushels in a season to Covent Garden. Such crops, however, are uncertain unless unusual facilities are at command; but they require no heat.

"Notwithstanding the discouragement market gardeners meet with, unfair taxation of glass-

I owe much of my success to his encouragement and teaching; I used to get into the garden at every opportunity, and at the age of fourteen commenced work there in earnest. After four years I went to Linton Place in the same neighbourhood, as journeyman under the late Mr. J. Robson, and remained two and a half years. The estate at that time belonged to the late Lady Holmesdale. Vegetables were grown well here, also hardy flowers, and the extensive flower gardens contained a fine collection of Conifers, planted by the late Mr. Masters, of Canterbury, in 1844; a large collection of flowering shrubs also succeeded well—much of my spare time was spent in examining these. Mr. Robson was chairman of the Maidstone Gardeners' Mutual Improvement Association, and all the young gardeners attended the meetings, which were very instructive.

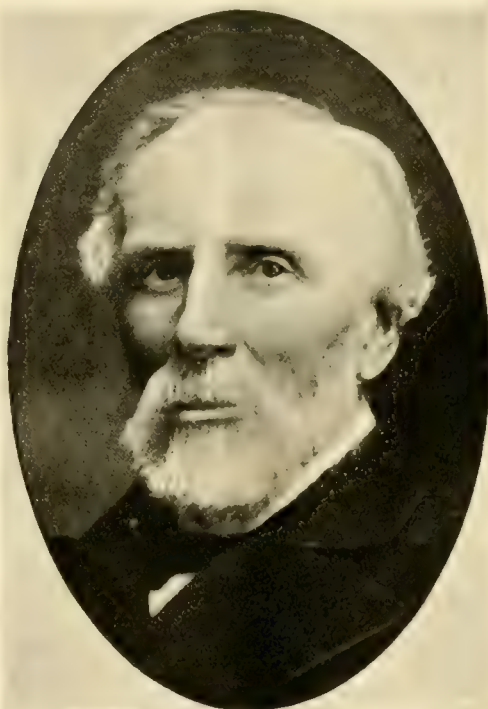
"I next obtained an introduction to the late Mr. Arthur Veitch, who kindly arranged for me to go

vegetable Chou de Burghley was distributed; this had been raised by Mr. Gilbert, and was a cross between a Broccoli and a Cabbage, and the demand for it was so very great that upwards of £200 was



MR. BEN ASHTON,
Gr. to the EARL OF LATHOM,
Lathom House, Ormskirk.

houses, excessive railway rates, uncertain markets, and other drawbacks, I am of opinion that there is scope for extended cultivation of choice early vegetables. Englishmen need fear no foreign competition, but one must be quick to learn the requirements of markets."

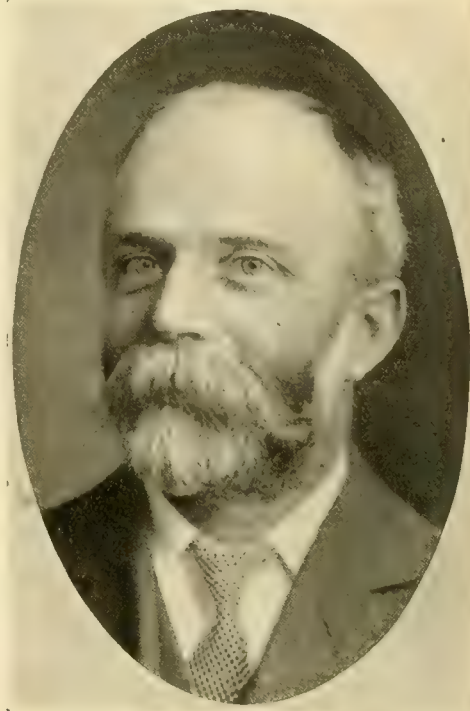


MR. DAVID THOMSON, V.M.H.,
Late of Drumlanrig Gardens, N.B.

as journeyman at Brantingham Thorpe, East Yorkshire, a much smaller place, but where I got acquainted with vegetable-growing in the North, also with a fine collection of New Holland plants and Heaths, and a small collection of Orchids.

"My next move was to the Earl of Scarborough's, Sandbeck Park, where a good establishment was kept, and garden produce had to be grown on a most unfavourable soil. From there I went to Lord Salisbury's, Hatfield, where the gardens had begun to improve under Mr. Norman's management, frequent changes in head gardeners having previously reduced them to a very bad state.

"I next went to Tandridge Court, Surrey, as general foreman, and found the sandy soil very favourable to vegetable growing. After some few months spent in the stoves and Nepenthes house at Messrs. Veitch's nursery, Chelsea, my next move was to Burghley House Gardens, Stamford, under the late Mr. R. Gilbert, who was well known at that date (1879) as an exhibitor of vegetables, having recently won the 50-guinea Challenge Cup offered by Messrs. Carter, and various other cups and prizes. While I was there, the new



MR. W. L. BASTIN,
Gr. to SIR ALEX. HENDERSON, Bart.,
Buscot Park.

realised by the sale. The Marquis of Exeter, with his usual kindness and liberality, presented me with £5 for keeping the accounts, and gave all the men a present besides. When I had been there



MR. NORMAN DAVIS,
Cultivator of Early Crops of Vegetables,
Framfield.

MR. W. H. DIVERS

is well known as gardener to the Duke of Rutland, Belvoir Castle, Grantham, and is a frequent and valued correspondent to these pages. He says:—

"Born at Wierton Place, near Maidstone, where my father was gardener for upwards of forty years,



MR. W. H. DIVERS,
Gr. to His Grace the DUKE OF RUTLAND,
Belvoir Castle.

five years the late Mr. Hopwood of Ketton Hall, called to see Mr. Gilbert, and after going through the houses, asked if his foreman could be spared to take charge of his garden; I was called in, and he explained that he had spent a large sum of money in building Peach-houses, and he wanted

a gardener who could grow Peaches better than anyone else in the kingdom. I found on arriving there some very fine houses, and the largest private collection of Peaches and Nectarines in



MR. R. A. HORSPOOL,
Gr. to RICHARD MIDDLETON, Esq.,
Chirk Castle, Denbighshire.

the country, but I had to lift the whole of the trees and remake the borders before they fruited satisfactorily. Both Mr. and Mrs. Hopwood often complimented me afterwards on the success I

and Carnations were in great demand, and good collections were established. In the winter of 1889-90 I went to Florida to inspect and report on an estate there belonging to Mr. Hopwood; this gave me a good insight into American life and methods of business, and proved most interesting and instructive. I collected, dried, and mounted all the wild flowers I could find, and took many notes on the cultivation of the various fruits. As a change of ownership was contemplated at Ketton Hall I resigned my appointment there in 1894, after staying nearly ten years, and commenced my duties at Belvoir Castle, as gardener to his Grace the Duke of Rutland, immediately afterwards."

MR. ROBERT FENN

is very well known as one of the first seriously to attempt to improve Potatoes by cross-breeding. It was in 1837 that he first crossed the old "Red Regent" with an indigenous variety of America, given to him by a Mr. Pringle; and as the seedlings proved to be different from their parents, he continued the work and achieved



MR. ROBERT FENN,
A Celebrated Raiser of Potatoes.

most gratifying success. He has raised very many excellent varieties, which have been distributed by the firm of Messrs. Sutton & Sons, Reading. Mr. Fenn was born in Suffolk in 1817, and he is therefore eighty-six years old, but in spite of his years he is enjoying excellent health and keenly interested in his garden at Sulhamstead.

MR. R. A. HORSPOOL,

the gardener at Chirk Castle, Ruabon, Denbighshire, is a young man who developed an interest in vegetable culture at the very outset of his career. He is rapidly making a reputation for himself in the Principality. The following notes afford further evidence that a garden is not necessarily useless or "worn out" merely because it is old:—

"I have always had much liking for growing good vegetables, but it was not until five years ago that I commenced to grow for exhibition. In the first year I was beaten at Chirk and Wrexham Pomological show, but it gave me greater energy for the next season, when I was placed first at both shows. After this success I showed

also at Shrewsbury, Birmingham, &c., and have been fairly successful during the last three seasons.

"These gardens are very old, and the date 1651 is cut in freestone over a doorway in one of



MR. S. MORTIMER,
Raiser of Cucumbers and Tomatos,
Rowledge Nursery, Farnham.

the walls. Nevertheless there is a good vegetable and fruit garden of about 8 acres. It lies between three terraces of walls, there being a mile of walls covered with fruit-trees. The two uppermost gardens slope gently towards the



MR. WILLIAM POPE,
Gr. to the EARL OF CARNARVON,
Highclere Castle.

obtained eventually. I also found vegetables had been very scarce there, and that large quantities had been purchased, but after a few months more were grown than the family required. Hardy flowers



MR. H. W. WARD,
Market Nurseryman, Rayleigh, Essex.

south, so that the situation is all that can be desired, and there are soils in the different quarters to suit every kind of vegetable grown, for there are five or six different kinds. The lowest part of the garden used to be a fishing lake, about

3 acres in extent, but half a century ago it ceased to be a lake, and is now well drained, the water running into a well and the overflow into the woods. On this portion I have no difficulty in procuring first-rate vegetables for home consumption or exhibition, such crops as Cauliflowers, Peas, Runner Beans, Turnips, Celery, Leeks, &c., succeeding splendidly, but Carrots will not grow after the thinning stage. But I have not the slightest difficulty in growing Carrots in another part of the gardens, and I have a grand lot without the least sign of wireworm amongst them. That the soil has been cultivated so many years does not hinder the Carrot in the least, yet some people think that they require fresh soil each year. My greatest difficulty is that I am situated so far North. Crops are quite a fortnight earlier in the South than here. I have a difficulty in getting Ailsa Craig Onion and Autumn Giant Cauliflower up to exhibition standard, and more especially so the last two seasons."

MR. S. MORTIMER.

There must be very few visitors to the horticultural exhibitions who have not become familiar with the collections of Cucumbers, Tomatos, &c., from Mr. Mortimer, of the Rowledge Nurseries, Farnham. At the earliest shows in the year, including that held at the Temple, Mr. Mortimer usually shows produce that leaves nothing to be desired from the standpoint of cultivation. Not only this, but he has paid much attention to the raising of seedling varieties, and he has been successful. Tomato "Winter Beauty," raised by Mr. Mortimer, is an exceedingly useful variety to the gardener, and as shown by many of our correspondents during last winter, it comes into bearing very quickly. Mr. Mortimer writes:—

"Purley Park Hero" was the first seedling variety of Cucumber I raised, and it is more than twenty years ago that this received a First-class Certificate from the Royal Horticultural Society, and it is still in cultivation. Since then I have raised some ten or twelve varieties, most of which have been Certificated by the Royal Horticultural Society's Fruit and Vegetable Committee, and all are in cultivation at the present time. Among the best of these are 'Matchless' and 'Sensation.' All my Cucumbers are pedigree varieties that have been worked down from an original strain, and this I find is the only way by which to keep a pure strain. One of the best things I have ever raised is Tomato 'Winter Beauty,' the pure stock of which has given great satisfaction to cultivators.

MR. W. POPE.

Many an exhibitor of vegetables has found a formidable opponent in Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle, near Newbury; and readers of the *Gardeners' Chronicle* will remember him as a writer of one of the weekly calendars in these pages, to which he is still an occasional contributor. Mr. Pope is an excellent cultivator. He writes:—

"I do not know that I can say much about myself that would be of interest. I commenced to exhibit vegetables soon after taking my first head place at Harold Wood, in Essex, in 1875, taking a second prize for a collection at Brentwood in, I think, the following year. I next went to Bishops Waltham, in Hampshire, and exhibited pretty regularly at Southampton for several years with varying success until I entered on my present charge at Highclere in the autumn of 1883. There is no doubt that exhibits of vegetables attract more attention from the general public than was the case twenty years ago, for which the more attractive and tasteful

methods of setting up are mainly responsible. But there has been possibly some advance in cultivation, and certainly there is a great improvement in many varieties, notably Potatos, Onions, Tomatos, Peas, and Beans. I am very glad to note the tendency is to discourage the 'setting up' of large, coarse vegetables, and that more attention is being paid to high quality."

MR. DAVID THOMSON, SR.

There is no gardener in this country, whether Scotsman or not, but respects the former gardener at Drumlanrig, now in his eightieth year, and living quietly near to Dalkeith, in perfect health, and as keenly fond of gardening as he ever was.

Mr. David Thomson was born in 1824, in the island of Mull, to which place Sir Walter Scott had sent his father in 1817. He left home for apprenticeship at Carstairs House in 1837, under the late Mr. Ross, who was a very smart man and an excellent cultivator; from there he went to Bothwell Castle in 1840, and was under the veteran Mr. Turnbull for four years. Bothwell Castle gardens were then among the best gardening establishments in Scotland, and certainly Mr. Turnbull was one of its best gardeners. They were famous more particularly for the culture of Heaths and for hybridising. In 1844 he went to be under that prince among horticulturists, the late Mr. Maruschi, in the Regent's Park, London. He next removed to Wrotham Park Gardens, and was two years foreman there under his brother, the late Mr. Wm. Thomson, "King of the Vineyard."

Mr. D. Thomson was head gardener first to Mr. Drummond, head of the banking firm at Charing Cross; then in 1850 he was gardener to the late Captain Trotter at Dyrham Park. He burnt all the heavy soil in the gardens at Dyrham Park, and grew the finest vegetables, after the burning, he ever produced. In 1858 he went to Archerfield, which gardens he rendered celebrated for flower gardening and fruit culture. His Pines and Grapes grown at Archerfield were often seen on the exhibition-tables, where they were usually successful in winning prizes. In 1868 he was appointed gardener to the famed gardens of Drumlanrig Castle, proving there in every department his skill and experience as a gardener; thence he retired in 1897.

From each of his situations he had tempting offers made to remain; he has been awarded the Niel Prize, the Veitch Memorial Medal, and the Victoria Medal of Honour. On leaving Drumlanrig he was presented with a magnificent silver casket and illuminated address by seventy-six of his foremen, all of whom he had placed in good situations scattered all over the world.

He was a writer for the *Journal of Horticulture*, and for several years wrote constantly for the *Scottish Gardener* (from 1854 till 1870), and edited it part of that time. He edited *The Gardener* from 1871 to 1882, when as the last of the monthlies it was discontinued. He was author of a treatise on *The Pine-apple, Fruit Culture under Glass*, and the *Handy Book of the Flower Garden*.

His only son, Mr. David W. Thomson, is a worthy representative of a notable horticultural family, and is highly esteemed and respected as a prominent nurseryman in Edinburgh.

MR. H. W. WARD

needs no introduction to readers of the *Gardeners' Chronicle*, although his portrait has never appeared hitherto in its pages. Mr. Ward was a frequent and valued contributor during the quarter of a century he was at Longford Castle, and since his removal from that place to Rayleigh,

in Essex, where he has established a flourishing market nursery, has continued to do so. The following notes are interesting:—

"One of my specialities during the twenty-five years I was head gardener at Longford Castle, Salisbury, was the cultivation of choice vegetables. Having an abundant supply of good stable-manure at my disposal, and being provided with ample labour, I had three layers, about 6 inches thick each, trenched into a portion of the kitchen-garden every year, the trenches being from 2 to 3 feet deep and the same width; the bottom of the individual trenches, being broken up with a digging-fork, received the first layer of manure, the other two were incorporated with the soil in the process of trenching. No wonder, therefore, that ground thus treated should produce satisfactory results. Scarlet-runner Beans attained a height of from 15 to 25 feet, supported by stout Ash-stakes braced together with others placed longitudinally at about 6 feet from the ground and secured in position by cross-ties made of tarred string, and these bore heavy crops of fine Beans from bottom to top, the produce being gathered by the aid of a long pair of steps. Veitch's climbing French Bean (raised and grown by me for many years before being distributed by Messrs. Veitch & Sons, of Exeter), attained a height of from 7 to 8 feet and was heavily cropped with long straight Beans of fine quality in ground prepared as above. The same may be said of Peas and other crops. Owing to the annual application of soot as a top-dressing prior to sowing seeds of Onions, Turnips, and Parsley, and the transplanting of Lettuce plants, my crops never suffered from the attacks of the Onion-maggot and other pests.

"During the years 1882 up to 1886 (inclusive) I was a frequent and successful exhibitor of collections and single dishes of vegetables at the Royal Horticultural Society's shows, then held at South Kensington Gardens. I secured 1st prize, offered by Messrs. Sutton & Sons, for four dishes of Peas two years in succession, the dates being May 23, 1882; and May 22, 1883, and June 26 same year. I also carried off Messrs. Suttons' 1st prize for a collection of Potatos on July 24, 1883; I was 1st for three dishes of Peas, June 24, 1884; 1st for two dishes of Beans, and 1st for Messrs. Carters' Peas at Chiswick, July 3, 1884. At the Royal Horticultural Society's Provincial Show, held in Liverpool on June 29, 1886, I took 1st prize offered by Messrs. James Carter & Co. for four dishes of their Peas; also 1st for three dishes of Peas in the Royal Horticultural Society's class.

"During a period of nearly twenty years I have assisted to make the awards in the special vegetable classes at Shrewsbury, having for my colleagues first the late Mr. Thomas Laxton (once), the late Mr. Pownall (several years), Mr. Lambert (Powis Castle) and Mr. A. Dean during the last five or six years, all being able, painstaking and conscientious judges, and with whom it has been a pleasure to work. The vegetables, like all other exhibits at the Shrewsbury Show, are splendid examples of good culture.

"Some twelve years ago I was present at a show held in Cheltenham in September, at which excellent vegetables were staged in great quantity in the individual classes, huge piles being artistically arranged, in some cases by the aid of a pair of steps; the number constituting a dish not having been stated in the schedule of prizes, dishes were made up thus: 250 Tomatos, 50 Cauliflowers, 30 Cucumbers, 100 Onions, and so on. A very imposing show they made!"



THE MEMBERS OF THE COMMITTEE OF THE GARDENERS' DINNER, HELD ON SEPTEMBER 29.

J. F. McLEOD.	C. R. FIELDER.	GEO. NORMAN.	G. RYNGOLD.	J. SMITH.	G. KEELF.	J. GIBSON.	E. BECKETT (Hon. Sec.).	C. JEFFERIES
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BRIDGE HOUSE, WEYBRIDGE.

AS the skilful painter elaborates with much care his well-conceived picture, so has Mrs. H. Seymour-Trower worked out her clever garden plan around the massive dwelling situated in a bend of the river Wey. The estate was acquired some years ago by H. Seymour-Trower, Esq. Among artists and other persons with keen eyes to discover the beautiful in landscape gardening, it has long been known as a very charming and cleverly-arranged garden. It is for us an easy task to endorse that opinion after the survey we were privileged to make recently, but not so easy to do even the semblance of justice to it in words only. Nor is it possible to convey exactly in what particulars the beauty of the garden consists. Most of the subjects observed are to be found in the gardens of others, and yet at Bridge House they seem to afford more refinement to the decoration of the place than in ordinary gardens. To get at the reason of this we must go back to the time when Mrs. Trower first took it in hand. The garden was then an old one, and although the efforts of the gardener had produced no unusual effect, the fine old Firs, Hollies, Yews, and other trees, which grew in height almost to the eaves of the house at the

angles, and the other fine trees on the slope towards the Wey, gave a very good material for operations. Had gardening of a formal character been adhered to the effect of these fine aids to garden design would have been almost lost. But the plan which Mrs. H. Seymour-Trower decided to work out was to form a garden in harmony with all that was beautiful in the old part, and to bring to her aid every available plant and shrub which might be thought worthy of contributing to the artistic and natural beauty of the whole; the one prevailing idea throughout being to leave nothing which had an appearance of newness; to prune or train none of the plants so as to obliterate their natural habit, but to present Nature as being guided but not curbed. One sees this in every part of this delightful garden, which is beautiful in detail as in general effect. The garden near the house is made up of several separated designs enclosed by Yew-hedges or otherwise screened from view; and beyond the terrace the grassy slope, the central figure in which is a clump of three gigantic Beech-trees, shelves away to the river, the banks of which have been planted with great good taste. The house itself is partly covered with *Wistaria sinensis*, *Clematis montana*, *Forsythia suspensa*, and *Roses*; and on one side of it is a terrace, the square, rough-hewn stones of which are greened over and the joints moss-grown. To the right is a charming garden paved with mossy stones, and having in the middle an oblong basin in which *Water-Lilies* flourish. Beyond is an elaborately worked wooden screen; on one side, a curved stone seat, with the inscription on the back, "Gather ye Rose-buds while ye may"; and on the other side in, lobed borders, a plentiful supply of *Roses*, *Pinks*, and other fragrant flowers ready to the hand of the gatherer; the whole scene being suggestive of repose.

On the higher level of the terrace the garden beneath the house is beautified by *Phloxes*, *Asters*, and other perennials in flower; and among larger trees a grand old English Yew at one corner is a fine object. On the other side, and beneath the ornamental stone balustrade, are irregular arrangements of *Lilium speciosum*, *Begonias*, and other bright flowers, relieved by the blue-grey tints of *Eucalyptus globulus*, bushes of *Rue*, *Southernwood*, and other fragrant herbs. At this angle of the house is a fine open-air room, artistically furnished, and over the sides of which the fragrant climbing *Roses*, *Honeysuckles*, &c., trail; the steps leading up to the room having *Orange-trees* plentifully set with golden fruits, *Lilies*, *Pelargoniums*, and other flowers.

Continuing beneath the high wall, furnished with circular openings of dressed stone, which screens this part of the garden from the pleasure-ground leading to the river, the visitor comes to a charming corner, the old wall at the back being partly covered with *Traveller's Joy*, the blue-berried *Vitis*, and *Toad-Flax*, which last caps the wall and droops over here and there in a graceful manner. The shrubs beneath the wall have for the central object a fine bush of *Myrtle* in full bloom, a *Pomegranate*, *Gum Cistus*, and other flowering shrubs naturally intermingled, a spray here and there of the climbers on the wall arching over them.

On the other side of the house, one angle of which is covered with a *Vine* and the purple-tinted leaves and fruits of *Rosa rubrifolia* intermingled, is a plantation of tall herbaceous plants—*Polygonums*, *Michaelmas Daisies*, *Lilies*, *Campanula pyramidalis*, *Helianthus*, and similar flowers, intermingled with flowering shrubs, both hardy and tender, some tall standard variegated *Abutilons* being very effective. Continuing, the border has masses of white and yellow-flowered *Marguerites*, *Phloxes*, *Gaillardias*, *Stocks*, *Gladiolus*, &c., the end being made up with a distinct collection of the autumn-flowering *Asters*; and beyond this point the floral display is maintained with *Lobelia cardinalis*, with *Stocks* and other scented flowers, a fine display of pillar *Roses*, and a clump of different species of *Maples*, selected for their beautiful tints in the autumn.

Passing a pretty little garden with summer-house in the corner, bushes of *Sweet Briar* heavily laden with fruits beside the steps, and a sundial in the middle of the grass-plot, an effective arrangement of *Roses* and cut-leaved *Bramble* in fruit may be observed. Here, as in every other part of the garden, the soil in the beds is not visible, a carpeting of *Saxifraga sarmentosa* and other *Saxifrages* and low-growing plants concealing it. These are allowed to ramble over the edges of the borders in a natural manner, and thus break the hard lines of the borders, and the grassy or mossy paths beside them add to the natural beauties of the design. To this end also all the grassy surfaces of the gardens are speckled in spring-time by an abundance of *Narcissus*, *Crocuses*, *Snowdrops*, *Chionodoxas*, and other bulbs, permanently planted.

Passing a tennis-court, here rendered ornamental by its angles being broken by groups of shrubs, and its sides redeemed from the usual straight lines by irregular groups of perennials, *Roses*, &c., next comes a little *Rose-garden*, the beds of which are bordered by tall edgings of *Box*. Skirting this garden a shady dell is passed through, the banks in which are planted with bulbs, *Foxgloves*, and similar subjects, the hardy *Cyclamens* being in great beauty. On the higher part is a picturesque old well, the stonework around which is covered with *Ivy*, *Toad-flax*, and moss—a very charming contribution to the scene.

Passing under some fine *Oaks* and *Chestnuts*, we come to a "wild garden" beneath the *Fir-trees*, *Bracken*, *Brambles*, *Willows* and climbers intermingled, and here and there brightened by clumps of orange-coloured *Montbretias*. Then a bog garden is reached, having a rivulet running down the middle, the banks showing clumps of *Japanese Primroses* in flower, the elegant foliage of *Japanese Irises*, *Bulrushes*, *Reeds* and kindred plants, two fine specimens of *Phormium tenax*, *New Zealand Flax*, being quite at home in this sheltered situation. Passing the plantations on the river bank, we note the fine effect of the grouping of the flowering and berried trees, some of the specimens of *Euonymus europæus*, *Spindle-tree*, being specially bright with fruits. On one side is a dovecot, with white fantail pigeons, well in keeping with the home-like repose of the whole scene; and during the walk we encountered many pleasing combinations, one shady part of the river bank

being brightened with patches of autumn-flowering Crocus, in another a good show of the modest flowers of the hardy Cyclamen; farther on a group of Spiræas of small growth, a clump of Sea Buckthorn, with one of the specimens bearing berries; with Roses and other fragrant flowers everywhere. Some fine statuary embellishes the floral designs, and at all points indications of artistic taste are evident.

THE KITCHEN GARDENS.

These consist of one made not many years ago, and the "old" garden, which, in addition to growing good vegetables, is planted with a large number of fruit-trees. A rustic covered way or pergola passes through the middle of this garden, upon which climbing Roses, Honeysuckle, and other trailers are grown; and these, together with numerous flowering herbaceous perennials, Mignonette, &c., in the borders, afford a good supply of flowers. Here also are the glasshouses, consisting of a Fig-house, a Vinery, and some for the cultivation of plants. In all of them the inmates, although well cared for, are of secondary interest compared with the flower garden.

SHALLOT OR EGYPTIAN ONION?

In the issue of the *Gardeners' Chronicle* for August 15, p. 121, there appeared a letter from Messrs. Dobbie & Co. complaining that at several shows held in Kent this season, notably at Chilham, large Russian Shallots had been disqualified, and were described by the judges officiating at the Chilham show as "Egyptian Onions." Messrs. Dobbie and the disappointed exhibitors maintained that the bulbs were true Russian Shallots. Subsequently the station-master at Chilham sent us specimens of the bulbs, and these we now illustrate in fig. 102.

In the *Vegetable Garden* Messrs. Vilmorin write—"In England a large-bulbed, vigorous-growing variety is cultivated under the name of Russian, or large brown or large red Shallot, bulbs nearly twice the size of the true Shallot." We took the opportunity to show some of the bulbs to several salesmen in Covent Garden, who stated that they are "unmistakably Shallots, and very fine bulbs, but owing to their unusual size not so saleable as the smaller ones, in so far as the market trade was concerned."

NEW VEGETABLES.

The new vegetables illustrated on pp. 251-253 have been raised by Mr. Geo. Wythes, Syon House Gardens, Brentford, who has kindly afforded us the following information concerning them:—

CUSTARD MARROW. (FIG. 103.)

The new Pear-shaped Marrow shown in fig. 103, I obtained from the bush and the old custard varieties, with the idea of getting a better fruit with a smoother skin. It is yet too early to speak definitely of its growth, as this year, owing to the great rainfall, Marrows have not had fair play. The quality is good, and I think Custard Marrows are superior as a vegetable to other kinds, being much drier and more like a Potato in consistency. The plants have a trailing habit and fruit freely. The fruits should be cooked whilst young, for they are worthless when old.

NEW CABBAGE EARLY GEM. (FIG. 104.)

This was raised with the idea of getting a small-growing variety that is earlier, if possible, than that good variety Ellam's Early Dwarf, and in a measure this has been secured, for though much smaller (it having just a single row of

outer leaves) it becomes fit for cutting before Ellam's. Most growers will admit that this is a gain. Even a few days in the spring, when green vegetables of good quality are scarce, is a consideration. The plants are very dwarf, having a short stem and a small, conical, compact heart, and the variety is the result of crossing Ellam's with Sutton's Little Gem. The new variety is larger than that last named, and similar to it in quality. For years, when staging early vege-



FIG. 102.—SHALLOT THAT WAS MISTAKEN FOR AN ONION.

tables at the Royal Horticultural Society's meetings, I made Little Gem one of my leading dishes, and it was always admired for its earliness and compact growth.

NEW CABBAGE ST. MARTIN. (FIG. 107.)

For some years I have endeavoured to get a perfectly hardy Cabbage for use from November to April, and in a measure the new St. Martin may be described as such. The value of the Colewort Rosette Cabbage is so well known that I need not describe it; but it is by no means hardy, as in very wet weather the heads split badly, and in severe frosts they are badly injured.

My aim has been to get the quality of the Rosette with greater hardiness, and I crossed the Rosette Colewort with the Christmas Drumhead Cabbage. The heads of St. Martin are not large, but compact and firm, and when grown in the Royal Horticultural Society's gardens for trial they were thought to be a valuable addition, and the variety was given an Award of Merit.

The seed should be sown in late April or May. The plant is dwarf, with spreading foliage; the heads are roundish, of medium size, and very firm; in this respect it is like the Drumhead, with the distinct flavour of the Colewort.

NEW LONG WHITE ARTICHOKE.

This variety is the result of rigid selection exercised for several seasons in order to get smoother tubers of better quality and colour. It may be urged there is no real gain in lengthening the root, and in a measure this may be true; but I fail to see any disadvantage, providing a better root is obtained (fig. 105). From close observation I have found that the rounder or shorter roots have a greater tendency to be rough and more warty, and the tuber varies greatly in colour, some being much whiter. I think by close attention to these points it is possible to improve the root very much. This new variety is a strong grower, attaining a height of 10 feet, and succeeds best in a loamy soil with ample moisture, but requires considerable space. The tubers are best left in the soil as long as possible.

NEW DWARF BEANS.

At the Vegetable Conference at Chiswick in 1889, I staged a collection of dwarf Beans to show the amount of variation in them, and from these plants, over a dozen kinds, I succeeded in effecting several crosses. From these two distinct varieties appeared, but it has taken much time to work up a stock. They were in due course sent to Chiswick for trial, and received awards both for their forcing properties and as general garden varieties, under the name of "Northumberland Prolific" and "Progress." The first name was altered in 1897 to Early Favourite, and it received an Award of Merit under that name as a forcing variety.

Progress, shown in fig. 106, is the result of crossing Mohawk or Six Weeks with Canadian Wonder, with the intention of getting an earlier Bean than the small-podded early varieties; hence the use of Canadian Wonder, one of the largest and best podders, for one of the parents. "Progress" is earlier, and has large, broad pods and a much stronger constitution than Mohawk, but is dwarfer than the well-known Canadian Wonder. Few vegetables that I have taken in hand have given me more satisfaction than *Progress* Bean, which I consider to be a gain in every way. This Bean will last a season, yielding produce from June to October, if proper food and moisture be afforded. This could not be said of the majority of dwarf Beans, they are not continuous croppers, and the plants are not vigorous enough to withstand red-spider and drought.

Early Favourite was produced in an attempt to get an early forcing Bean of the Syon House type, but more productive than that variety. The parents in this case were Mohawk and Veitch's Ne Plus Ultra. It is recommended as a forcing variety, and received an Award of Merit after trial under glass at Chiswick. It is equally valuable for cultivation in the open ground on account of its earliness and good cropping quality, and was given another Award when grown as an early crop out-of-doors.

Out of a batch of seedlings in 1899 I secured two distinct types; one I hope will yet come to the front, and the other recently received an Award of Merit under the name of Wythes' Early Dwarf. This was the result of crossing Syon

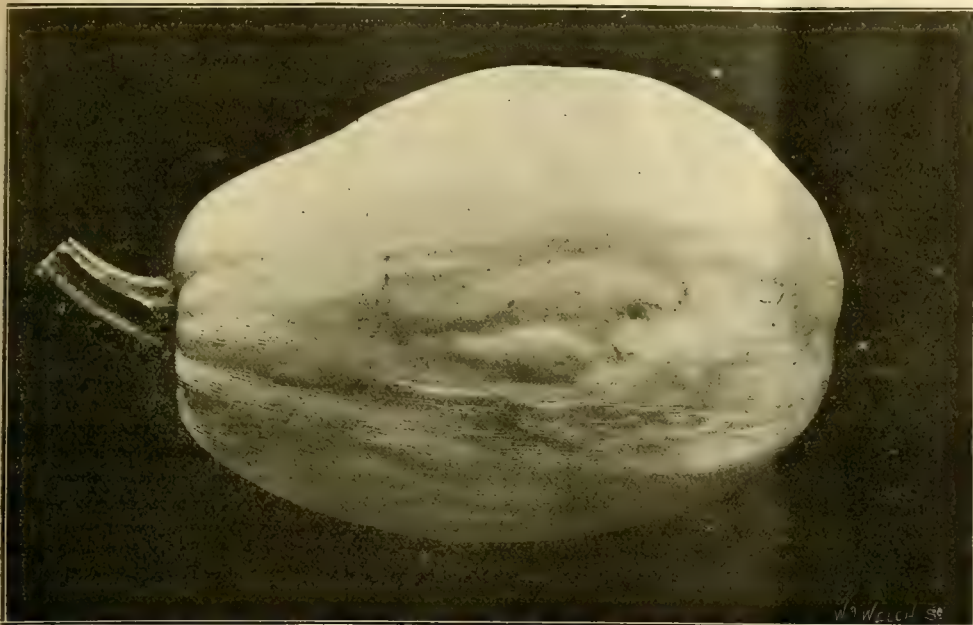


FIG. 103.—NEW CUSTARD MARROW. (SEE P. 250.)

House with Mohawk; it will be seen Mohawk is a favourite as a parent, and this is because it has such a compact habit and is of fine quality. The older Syon House is noted for its earliness, but does not last long; this latter fault is absent in the new seedling. The pods also are thicker or more fleshy and longer, and the quality excellent.

NEW OR NOTEWORTHY PLANTS.

PINUS ELDARICA, MEDWEDJEW.

We take the following from a recent number of the *Jardin*, which in its turn reprints it from *Arb. [P] des Tiflischen Botanischen Gartens*, 1902:—“A new species of *Pinus* from the desert of Eldar, in Transcaucasia. It is an erect tree, about 15 metres high, with spreading head, long spreading branches; leaves in pairs, rigid, acute, scabrous at the edges, 4 centimetres long. The ripe cones are ascending, 2 to 3 centimetres long, $\frac{1}{2}$ to 2 centimetres broad, solitary or verticillate, on a short stalk, oval-oblong; apophysis convex, transversely keeled. *P. eldarica* differs from *P. Brutia* by its shorter leaves and its cones, which are solitary or in groups of two or four. It differs from *P. halepensis* by its thicker leaves, and especially by the stalk of the cone, which is ascending, never deflexed.

IMPROVEMENT IN VEGETABLES.

(Continued from p. 222.)

PEAS.—In Peas, the progress made is very marked. The pods are finer and the quality superior, whilst the haulm is dwarfer. This progress is by no means valueless to the purchaser, who now gets better quality; and growers, by purchasing seed true to name, obtain much better crops. A few seasons ago I saw the results of a trial of the old small white round Peas under field culture, with the newer varieties, which have more vigour, much larger pods, and greatly superior quality. There could be no comparison between them, as the newer varieties, having some of the characteristics of the Marrowfats, were so much superior, whilst the crop could be gathered from them much more easily.

Soil is a very important factor in the culture of Peas. On poor gravelly soils Peas are short-lived after the beginning of August, especially if the weather be hot, but in suitable soils I have seen a fair supply obtained from the end of May

until November, beginning with such varieties as Veitch's Chelsea Gem, Sutton's Early Giant, May Queen, Little Marvel, and Ideal, all possessing the true Marrowfat flavour, and others, such as Bountiful, that will thrive where more tender varieties fail. These show what great strides have been made with the early varieties, which include Carter's Daisy, Early Morn and Stratagem. This last belongs to the second early section.

There is now an improved Stratagem, “The Danby,” doubtless, a re-selected stock; but the older form proved a valuable variety for years, and is still a great favourite. The new main-crop or midseason kinds are noted for sturdy habit, heavy cropping, and high quality, possessed by such Peas as Sutton's Eureka, Dwarf Defiance, and Prize-winner; Carter's Telephone, and the earlier Laxton's Gradus, and Thomas Laxton, &c.,

It is difficult to know what to select, there are now so many good varieties. What a valuable addition is the variety Autocrat that Messrs. Veitch gave us a few years ago, and what fine varieties are Alderman, Goldfinch, Matchless Marrowfat, Late Queen, and the Michaelmas Pea! It is difficult to see what further advance can now be made, so much having been done during the last quarter of a century.

I admit it is important to have early Peas that will withstand our variable seasons, but it is not always the variety that is at fault when there is failure. Over-crowding always produces poor plants, and if the necessary thinning out is done early, it would often improve the crop. Afford the plants more space in the rows and you will obtain more abundant and better crops. *G. Wythes*.

(To be continued.)

DUBLIN.

TRINITY COLLEGE BOTANIC GARDENS, BALLSBRIDGE.—These gardens, like most of those around Dublin, suffered considerably by the storm at the beginning of the year. Mr. Burbidge has the loss of many trees to deplore, among them a fine specimen of *Ulmus americana*, but fortunately the old Stone Pine remains intact. We noticed recently a few things in flower outside. *Lapeyrousia* (*Anomatheca*) *cruenta* grows quite freely in the open. There were clumps of *Primula capitata* bearing spikes plentifully, and a large space in a corner is filled with *Primula sikkimensis*, which must have been a pretty sight when in flower. On a border we came across the quaint Dragon's Head *Gladiolus* (*G. dracocephalus*) and *Hypoxis hemerocallidea*; *Androsace lanuginosa* and *A. Lemoinei* were covered with blossom. Under a hedge was growing *Mentha Requiemi*, a very minute but pretty little herb. There is also a strong clump of *Polygonum equisetiforme* which might easily be taken, even by a botanist, for an *Equisetum*. Other treasures too numerous to mention were seen. They, like their old plantsman, Mr. Hannahan, have been here for years and years, and so “belong” to the College gardens. Parts of the garden are now gay with *Crocus speciosus*, *Cyclamen europæum*, and *Ericas*.



FIG. 104.—CABBAGE WYTHES' EARLY GEM. (SEE P. 250.)

The houses in this establishment are excellently kept, but the weather being fine, we preferred gazing at the Powerscourt Phormiums and the great Gunneras.

PHOENIX PARK, DUBLIN.

The People's Garden in the Park should be visited by all visitors to Dublin. With its

Feather is a plant that wants hiding somewhere. Great bold Kniphofias are to be seen everywhere. Bambusas and Polygonum sachalinense, planted at discreet distances on the steep bank adjoining the lake, give just the effect desired, Aralia spinosa, turning a reddish-brown, adding colour to the scene. The Willows, White Poplars (always



FIG. 105.—NEW LONG WHITE ARTICHOKE.
(SEE P. 250.)

varied surface, it is quite distinct from anything "on the other side." The bedding-out is always very good. Ivy-leaf Pelargoniums, trained umbrella-fashion, Jacarandas, various species of Aralia dotted about everywhere in the beds make a nice show. A good idea is Golden Feather (Pyrethrum) planted in among the Chrysanthemum groups; it serves to light up the ground in an agreeable manner. Golden

fluttering with the breeze), the fine stretch of lawn, the Dublin mountains in the distance give a sense of elation not often felt. One should not come away without a peep at the lake in the Zoological Gardens close by. This same lake should also be seen again later on in the autumn when the Dogwoods fringing it put on their gorgeous colours. *Leo Farmer.*

(To be continued.)

ORCHID NOTES AND GLEANINGS.

EULOPHIELLA PEETERSIANA, SYN. GRAMMATOPHYLLUM REEMPLERIANUM.

WITH respect to the remark on p. 188, Sept. 12, that to verify my suggestion that *Grammatophyllum Reemplerianum* Rehb. fil. was a synonym of *Eulophiella Peetersiana*, "we shall have to wait till 1914 before the herbarium of the eccentric Professor can be consulted in order to obtain confirmation of this opinion," I may say that it has long ago become a recognised fact, as there is other authentic material available besides that in the late Professor Reichenbach's Herbarium. *The Orchid Review*, 1899, p. 358, gives my article on the subject published in the *Gardeners' Chronicle*, November 11, 1899, p. 353, and at the end, Mr. R. A. Rolfe adds, "After comparing this note with dried specimens and figures, I am quite satisfied that the two plants are identical, so that another chapter is added to the history of this remarkable plant." J. O'B.

ANTHOGONIUM GRACILE, Lindl.

A very elegant little species, somewhat resembling in habit a *Bletia verecunda* of small growth, but with differently shaped flowers. The narrow plicate leaves ascend from the *Bletia*-like pseudo-bulbs, from the sides of which spring the slender spikes, each about 1 foot in length, and bearing on the upper third rose-coloured flowers furnished with pedicels about half an inch in length. The perianth forms a tube half an inch in length, from the upper part of which the two lower sepals are rolled back, the upper one continuing to the back of the column, the tips of all three being recurved. The lip is cuneate, recurved, obscurely lobed, and spotted with red. It is native of Moulemin, Himalaya, Nepal, Sikkim, Khasia Hills, and recently recorded from Yunnan, always at high altitudes.

It has flowered with Mrs. Brightwen, The Grove, Stanmore (gr., Mr. J. W. Odell). The genus is monotypic. It is well illustrated in King and Pantling's *Orchids of the Sikkim Himalaya*, vol. 8, plate 134.

CATASETUMS FROM MOORTEBEEKE.

Writing from Brussels, M. Lucien Linden says: "I send you the flowers of five beautiful *Catasetums* as a proof that that genus is not so difficult to cultivate as some Orchid-growers suppose it to be. The plants from which these spikes are taken, and many more which are now splendidly in bloom here, have been cultivated by me for ten or twelve years—that is to say, ever since their introduction—and they have flowered abundantly every year. I think the beauty and diversity of form and colour equal to any of the showy genera of Orchids." The fine examples sent fully bear out these remarks, and especially the gorgeously-tinted *Catasetum Bungeorothii imperiale*, whose massive wax-like flowers have labellums measuring $2\frac{1}{2}$ inches across, and nearly all but the front margin is of a rich purple colour, the petals being spotted with a similar hue. *C. Bungeorothii Pottianum* is a smaller white-flowered variety with rose-tinted petals; *C. × splendens Lindeni*, rich purple on the upper half, and orange colour on the front portion of the lip; *C. × splendens rubrum*, rich yellow tinted, with red in the centre; and *C. × splendens aureum* has a large citron-yellow coloured lip.

The chief points required in the cultivation of *Catasetums* are to grow them while making their leaves and perfecting their growth in a warm intermediate-house, and near the roof for preference, and to rest them cool and dry. In fact, if they are treated like deciduous Dendrobates, and liberally afforded water when making their growth, they are not difficult plants.

ABNORMAL CYPRIPEDIUM FLOWERS.

Flowers of *Cypripedium Charlesworthii*, rendered still more beautiful by an abnormal

arrangement of the parts, are sent by Mr. J. O. Clarke, gr. to Ludwig Mond, Esq., The Poplars, Avenue Road, Regent's Park; and as both the flowers from the same plant exhibit similar peculiarities, it may be that the character is fixed. The whole of the flower is perfect and of the best type, with a large dorsal sepal of a rich purplish-rose tint having white marbling at the tip. The added peculiarity consists in the lower sepals being supplemented on each side by extra borders of the same colour and character as the upper sepal; the lighter greenish lower sepals appearing in the middle. So arranged, the usually inconspicuous lower sepals are as large and showy as the upper one. A similar variety has also appeared in a nursery in Scotland.

A flower of *Cypripedium* \times *Leeanum* sent by Messrs. Wm. Bull & Sons is in part similarly

ward movement made by Nature to preserve her originals, and hoped that it would later on show clear traces of hybridity. I believe this plant to be the first crispum ever raised. It is the result of a good form of *O. crispum* crossed by *O. Wilckeanum*. It is of good round form and medium size, but has now, as in 1900, not a trace of the yellow ground of *Wilckeanum*, and, excepting five small pin-head spots in four sepals, not a trace of the blotching of that hybrid in all its thirteen blooms. It is blooming on sixth bulb of good size, and it is impossible to expect any alteration of colour or markings. Its history is as follows: crossed, March 5, 1893; sown, March 3, 1894; opened six blooms, August 13, 1900; opened thirteen blooms, September 23, 1903. I have the *Wilckeanum* still, but not the *crispum*; but I remember it perfectly.



FIG. 106.—NEW FRENCH BEAN "PROGRESS." (SEE P. 250.)

deformed, but its beauty has departed. The upper sepal is not in its proper place, but it has gone to form the border of the lower sepals, as in the case of Mr. Clarke's flower. The place of the upper sepal is taken by the only petal, and the lip is elongated and laterally compressed.

REVERSION IN ODONTOGLOSSUMS.

In relation to my first article hereon in your issue of February 14, 1903, p. 99, I now adduce another interesting piece of evidence. The first exhibited proof was my seedling *Odontoglossum crispum* (*crispum* \times *crispum* *Crawshayanum*), which appeared at the Royal Horticultural Society meeting on March 10, 1903. That plant proved reversion even beyond my expectation, for a worse form of *O. crispum* could hardly be expected, and all trace of the great blotches of *O. c. Crawshayanum* was wiped out by the retrograde movement effected by Nature.

My present subject is again in bloom, and in fact it is my first result, but when it first bloomed in 1900 I could hardly credit the gigantic back-

This is the second plant and from a different crossing that proves the great prepotency of *O. crispum*, when unspotted, as the seed-bearing parent to revert to itself. I failed to raise more than this one plant from this cross, but in future results there is hope of greater numbers wherewith to prove my theory beyond doubt and even contradiction. "Straws show which way the wind blows," is a good old proverb, and these first small results are very early straws. Perhaps some day I may have a sheaf of them, or some other raiser may forestall me. I hope that, if he should do so, he will publish his results.

Perhaps considerations of value of unbloomed seedlings may prevent these failures coming to light, but I consider that the great value of "blotched crispums" is more than ever assured by these failures to produce them artificially. I shall exhibit this plant at the Royal Horticultural Society on the 13th inst.; thus this generally supposed unlucky number will have entered some three or four times into the history of the plant. *De B. Crawshay, October 3, 1903.*

FOREIGN CORRESPONDENCE.

CHRYSANTHEMUM-GROWING IN AMERICA FOR MARKET OR SHOW PURPOSES.

The methods employed in *Chrysanthemum*-growing in the United States vary very much from those in England. The cuttings, rooted on a bench of coarse sand, with bottom-heat, are potted into 2-inch pots, from which they are transplanted into soil on the benches of the houses, where they remain until they have flowered. These benches are built of cement or wood, with a wooden or tile bottom, and are about 4 inches deep. A house 100 feet by 20 feet contains six, 4 feet wide and rather less than 50 feet long. The bottoms of these are covered with a layer of rough sittings or rotted turf, and are then filled with good loam free from manure.

Planting commences in the beginning of June, and care is then taken to select strong young plants with soft wood down to the base, hard wood, if there is any, being as far as possible buried below the surface. Five rows of plants, 10 inches apart, are put on to a bench, the plants 8 to 9 inches apart in the rows—in all, about 1,800 plants to a house. They are watered sparingly until the plants are growing strongly, when a



FIG. 107.—CABBAGE ST. MARTIN. (SEE P. 250.)

top-dressing of well-rotted manure with little or no straw is afforded; and when that is exhausted they are fed with light applications of chemical fertilisers, applied every three or four days; if this be not done, another mulching of manure is given.

The reason for affording slight and successive applications of manures and fertilisers is that the plants shall receive the nourishment as it is required, and roots are formed; while if planted into rich soil in the beginning much of the food is lost, and the plants are slower in starting.

Water is applied overhead with the hose frequently to keep down red-spider, and aphids are kept in check with constant fumigations of tobacco. Rust is little known, the climate being too dry. The plants, as soon as 6 to 9 inches high, are tied to strings for support. Buds of early varieties, mostly for market, are "taken" from the middle of August on; from those for showing from the beginning of September. Each plant carries one bloom, for market as well as show purposes, only large flowers with leaves right up the stem being in demand, the small decorative flowers, as put on the English markets, being unsaleable.

Many other market flowers and foliage plants are grown in the same manner, and by the end of August the benches in many houses are filled with Carnations, Roses, Smilax, and Asparagus Sprengeri and *A. plumosus*. *E. Denys-Rowe, 48, College Avenue, Adrian, Michigan.*

PLANT NOTES.

SISYRINCHIUM IRIDIFOLIUM.

VERY little appears to be known about this *Sisyrinchium*, but it is a charming little plant, well worthy of culture in warm gardens. As a native of Chili, it would probably succumb during the winter in cold localities; but there seems to be no reason for supposing it to be less hardy than *S. bermudianum*, a denizen of the warm but windy isles of Bermuda. *S. iridifolium* has also gone by the name of *Marica iridifolia*, and was introduced into this country in 1822, yet it is most rare to meet with it in gardens. It produces Iris-like foliage about 8 inches in height, and bears clear yellow flowers, from half an inch to an inch in diameter, through many weeks of the summer and early autumn.

S. bermudianum must possess a hardier constitution than it is credited with, as I have seen large old clumps of it in a garden on high ground near Chappetow, where it has received no protection. The North American *S. grandiflorum* and its white variety are fairly well known; and the tall-growing *S. striatum*, a coarse plant of no particular merit, is sometimes to be met with; but none of the family is prettier than the subject of this note when in good flower. *S. W. Fitzherbert*.

EXACUM ZEYLANICUM (MACRANTHUM).

The showy star-shaped indigo-blue flowers with rich golden-yellow coloured centres which this fine Ceylon plant produces are coveted by most plant lovers, but generally speaking they have but ill-success with the plant. In the Right Honble. Lord Rothschild's garden, Tring Park (gr., Mr. E. Hill), a nice lot of plants of it have been grown and bloomed in a tolerably warm but well-ventilated greenhouse.

In regard to this plant a correspondent, writing from its home in Ceylon, possibly gives a hint which may be useful, and which seems to indicate that Mr. Hill's success has been brought about by free ventilation of the house and avoiding over-potting, which generally works mischief with this plant. Our correspondent remarks: "I think many fail to grow this plant at home by being too kind to it. I have always found it growing best on the poorest soil, often on an exposed, rocky, barren ridge, with no shelter from the sun."

PARIS.

THE TRIANONS.

(Continued from p. 234.)

OPPRESSED by the stately grandeur of Versailles, it is with a feeling of relief that one enters the more pictorial domain attached to the greater and to the lesser Trianon respectively, and where the visitor will be forcibly reminded of the gardens at Hampton Court and the pleasure-grounds at Kew, the Queen's Cottage included (fig. 111, p. 259). Here are woods and plantations, but few or no formal avenues, together with flower-beds and fountains in proximity to the palaces, where they are appropriate enough. The furnishing of the flower-beds in the immediate vicinity of the buildings is carried out on much the same lines as in the case of the Tuileries gardens and the parterres of Versailles; elsewhere a freer and more varied style prevails. One bed in particular was very striking, consisting chiefly of an extremely brilliant scarlet Begonia, of which M. Bellairs, the courteous Superintendent of the Parks and Gardens, has kindly given me the history. It was raised some twenty-five or thirty years ago by M. Bertin, of Versailles, and distributed by MM. Vilmorin, Andrieux et Cie, under the name Begonia Bertini x. Like B. Worthiana, it is a hybrid from B. boliviensis, but with larger flowers, with the segments more widely spreading

and more brilliant in colour; the tubers, M. Bellairs tells me, attain a large size; the plant itself is robust and starts into growth early. When planted out in May it is already in full flower. It is employed in shady situations as well as in those exposed to the full sun, and in any case is most brilliant in colouring and very free flowering.

But the great feature of the little Trianon park is the pictorial manner in which the undulating grounds are disposed around a central lake, which is not a straight canal, as at Versailles, but a sinuous sheet of water with a pleasing outline, which might with advantage be broken up by tufts of aquatic plants. The trees are planted some singly, some in groups; often contrasted forms are associated, as pyramidal trees with round-headed trees, billowy Sophoras with conical Thuyas, and so forth. Just now the contrast of colour is in some cases very striking, as when a golden-leaved Horse-Chestnut is backed up by the silvery foliage of a noble group of Scotch Pine. And what grand trees there are here!—spreading Cedars, stately Wellingtonias, furnished to the ground, Corsican and Weymouth Pines, Abies pinsapo, a gigantic Ailanthus, the biggest I have ever seen, and Red Cedars in abundance! But perhaps of all the splendid trees here to be seen none is more remarkable than a pyramidal Oak, towering aloft with a mass of rich green foliage, like some huge flame-shaped column of verdure. The unbranched portion of the trunk is short and stout, its girth, at 3 feet from the soil, is roughly 10 feet. A day or two might be spent here profitably in studying the forms of Pinus Laricio and other Conifers, but a mere enumeration of them in this place would be tedious.

Bamboos have not found much favour here yet, although there are numerous sites well adapted for them, provided the climate be suitable. Chamerops Palms pass the winter out-of-doors suitably matted up, so it would seem that with a little protection Bamboos might also be made to form a feature in these lovely gardens.

Before leaving the parks of Versailles I may mention that I had the honour of assisting at a small exhibition of horticultural produce, held in the Orangerie, in a vast crypt beneath the terrace. The exhibition itself contained some fine groups of foliage plants from M. Truffaut, Dahlias from MM. de Vilmorin et Cie., a group of Montbretias from M. Welker, of St. Cloud; some good vegetables, including Gourds and Aubergines, a few finely coloured Apples, but not much else that the readers of the *Gardeners' Chronicle* would care to have put before them.

At the judges' luncheon your representative had the honour of an invitation to be present, and received a most kindly and friendly welcome, the remembrance of which will not soon be effaced. *The Rambler*, September 19.

The Week's Work.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Turnips.—Seldom are Turnips grown of so fine a shape and quality as they are this season, the showery weather suiting the plants to perfection. Let all bulbs of the earlier sowings be lifted immediately they have grown to fair useable sizes—storing them in moderate-sized heaps on the north side of a wall. It is a good practice to put them in layers alternately with sand or finely-sifted coal-ashes, and the heaps into the form of ridges, covering the top and sides with dry bracken and a layer of soil about 3 inches in thickness. Thin the late sowings and stir the soil between the rows with the Dutch hoe, applying dressings of fresh soot if slugs are troublesome.

Seakale.—The growth of the plants has been particularly good this year, but the crowns are

late in maturing; consequently it will not be prudent to lift the roots for early forcing unless a short season of rest is afforded by removing the leaves as soon as these begin to decay, then lifting the roots and leaving them on the ground for a few days. When Seakale is required very early in the autumn use should be made of retarded crowns, which afford good heads in about three weeks, after placing them in the Mushroom-house or other suitable dark place.

Rhubarb needs a similar kind of treatment, and will force better if allowed to remain uncovered for a week before being placed in heat. The roots should be taken up carefully, with good balls of soil, and subsequently kept moist. It is of no use to attempt forcing immature crowns of either Seakale or Rhubarb. It is not an uncommon thing to have the produce of the second batch of roots fit for use before the first. Suitable varieties should always be grown on a south border for forcing very early, especially where the land is of a heavy nature.

Globe Artichokes.—These will need protection when frost threatens, the heads being tied together and three stakes placed round them, and over all a covering of mats or litter. Clear away the useless stems and decaying leaves.

Califlowers.—Those intended to stand in pits or frames throughout the winter should be potted-up or pricked off into beds as soon as large enough to handle, keeping them near to the glass. The lights should be kept over them till the plants make new root, after which remove them in the morning and replace at night, unless the weather is mild. Afford water carefully, as much moisture in the soil causes soft growth, and they are then almost sure to damp off during the winter.

Leeks, &c.—In fine dry weather earth-up the later plantings, and before proceeding to do this, make sure that the soil at the roots is not dry. Break up the soil finely, and place it carefully round the plants. Cardoons should be earthed-up at intervals of about ten days, until the required length of blanched stem is secured, employing plenty of soil to ensure perfect blanching.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Planting Trees and Shrubs.—From the present time till the middle of the month of November is the best season in which to plant most species of deciduous trees and shrubs, which are now forming fresh roots. Early planting enables these roots to seize upon the soil before the winter's cold checks growth for a time. This early establishment of the plants enables them to make an unimpeded start next year, and renders the application of water unnecessary. There are now available numerous flowering trees and shrubs, such as the Crabs, Crataegus, Cotoneaster affinis, C. Simonsii, Euonymus, and others which possess decorative fruits. In selecting it should not be overlooked that the fruits of the Cotonasters and Euonymus are seldom eaten by birds; while *Pyrus Aucuparia* (Mountain Ash) and some species of *Pyruses* are stripped of their fruits ere these have coloured; and such subjects should not be much planted where birds are numerous or the coverts dense. If the trees are home-grown the gardener has it in his power to lift them with as many roots or as good balls as possible. In digging up a tree or bush open a deep trench 4 to 6 feet distant from the stem, and work up to it, taking small quantities of soil away from the roots at a time, and keeping the trench clear at the bottom. A big ball is generally unnecessary, and often leads to the whole mass falling away while being transported to the new station. A ball of manageable size, easily transportable on a mason's barrow or a hand-barrow, with plenty of undamaged roots at the sides, will generally be found sufficient if the work be well carried out. A great assistance to every newly-planted tree is to wash-in the soil from a coarse water-can-rose or the spout, which will settle it round the roots in a manner not to be equalled by pugging or ramming.

Herbaceous Borders.—One advantage in devoting flower-borders to special seasons is that the overhauling and replanting of one set can be carried

out while the plants in the other are at their best. This is the case with our autumn borders at the present date, which are still gay; whilst those devoted to spring and summer flowers are being attended to, and the plants lifted and divided so as to be completely re-established before winter begins. Where it is possible the better plan is to lift all the plants, except those known to be injured by root disturbance, and trench or double dig the border and replant; but this not being always convenient, good results may be obtained by simply digging out large holes and affording each plant plenty of manure.

Iris.—English and Spanish *Iris*, which afford excellent flowers for cutting purposes, may now be planted. Although the expanded flowers are easily injured, the flower-buds develop and expand nicely when the stalks are put into water.

Work in General.—Tender perennial plants used in subtropical work should now be lifted, potted, or tubbed, and brought into the houses in which they will remain till June. *Escheveras* used for edgings may be placed in dry soil in boxes, and for the present these may be stood in a cold frame where there is freedom from drip. Whenever the time serves, fork out or spud up obnoxious weeds wherever they appear in the rougher parts of the garden.

FRUITS UNDER GLASS.

By T. H. C.

Tomatos.—Plants raised in early summer which are growing in cool houses will yield fruits till late in the year if space be afforded the growing shoots, and the roots kept well supplied with manure. Remove the fruits as soon as they become ripe, as if allowed to hang for any length of time the plants become exhausted. Fertilise the flowers daily, remove decaying leaves, and thin out the remainder. Afford constant ventilation, and a night temperature of 55° to 60°, and by day of 65° to 70°, and maintain the air of the house in a buoyant condition.

Orchard-house.—From the present date till the end of the month the planting, root-pruning, or transplanting of the trees, also the potting or top-dressing of trees in pots may be undertaken. Early Cherries, Plums, Peaches, and Nectarines which have been plunged outside may be brought into the house, and after the soil in the pots has become nearly dry, repotting or top-dressing may receive attention. If a plant was repotted last year, a top-dressing of loam and manure will suffice this time, after pricking out the exhausted soil from among the roots to half the depth of the ball, replacing it with a loamy compost, which ram well together. A good top-dressing compost will consist of turfy loam, to every barrowful of which has been added a 7-inch potful of bone-meal, and three of mortar-rubble and charred refuse. In repotting reduce the ball in size, shorten coarse-growing roots, and place the ball in a pot one size larger than that it was taken from, making use of a compost like that recommended for top-dressing, and pot firmly. Trees that are growing in pots of great size may be returned to the same sized pots, after reducing the size of the ball and cutting off some of the roots. Trees standing in the borders, if growing too strongly, may be induced to fruit more abundantly if root-pruning be carried out at this season. Let a trench be taken out 3 to 4 feet more or less distant from the stem of the tree, and deep enough to get at the deepest roots, and work the soil away with a digging fork up to within 18 inches of the stem, also undermining the ball and severing any strong-growing roots that have a tendency to go downwards. Carefully preserve all the fibrous roots, and in filling-in the trench, spread these evenly out in layers in the upper foot of soil, firmly trampling the latter as the work proceeds. Unless the soil is of poor quality nothing beyond a small addition of mortar-rubble is necessary when again returning it to the hole. Finish off with a copious application of water and a mulch of decayed stable-litter. By carrying out root-pruning at this season the wounds will heal quickly and fresh roots will start from the wounded ends early in the spring. During very bright weather syringe the trees twice or thrice daily so long as there is any foliage upon them. Afford full ventilation night and day, and where growth on Peaches

Nectarines, or Figs is in any way crowded, cut the superfluous shoots not wanted for fruiting next year.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Oncidiums.—The species *O. varicosum*, *O. Rogersii*, *O. crispum*, *O. Forbesii*, *O. tigrinum*, are autumn-flowering, and the plants will have completed the growth of their pseudo-bulbs, and in some instances the flower-spikes will be advanced sufficiently to make it prudent to fasten them to stakes. If the plants can be removed to a house where the atmosphere is a little drier and warmer and plenty of air is admitted, it will be an advantage. A house that is set apart for resting *Dendrobiums* will suit them well. Afford the plants a position on the stage where there is enough sunlight to mature the new growth. Water in moderation will be needed till the flower-spikes are removed, when a very small quantity will suffice. Let the flower-spikes be removed from weakly plants, and do not leave them on strong plants for any great length of time after every flower has opened.

Odontoglossum grande.—This species is now in bloom in the cool intermediate-house; and seeing that the flower-spikes are produced on the partly-developed pseudo-bulbs, water should not be withheld till these are fully matured. While the plants rest, not much moisture at the roots is required to keep the pseudo-bulbs plump and in health. Grown in leaf-soil, *O. grande* is one of the most inexpensive Orchids to grow, and one that furnishes quantities of flowers good for cutting in the autumn. No difficulty is experienced in its cultivation if it be placed in a well-ventilated, cool intermediate-house the year round.

Calanthes are fast completing their growth; but the leaves are still fresh, consequently water will still be needed. On bright, sunny days admit an abundance of air; and be sure that sunshine reaches them the whole day long.

Vanda Kimballiana.—The flowers of this fine species are fast opening, and they will expand more kindly if afforded a little more warmth and slightly drier conditions. In a cool moist house the flowers are apt to get spotted. The flowering season over, remove the plants to the cool intermediate house for the winter, and afford but little water at the roots.

Shading.—This may now be entirely dispensed with in all houses, excepting those in which seedlings in a tender stage or newly-potted plants are standing. Sometimes the blinds are employed to maintain warmth in the houses on very cold nights in winter, in which case they must remain. All blinds when taken down should be perfectly dried before being put into store for the winter. Note should be taken of any that will require repairs or replacing with new ones next year.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Planting Fruit-trees.—It is usual on some country estates to plant one or two acres of land with fruit-trees as an auxiliary supply to the garden proper. Where it is intended to plant an orchard of this description, the work of preparation should be undertaken forthwith, a site being selected, if possible, where shelter from the north and east winds exists or can be provided. If the soil is of a loamy nature, or the subsoil is clay or marl, the Apple, Pear, and Cherries will succeed. Should the orchard be put under grass, standards with stems 7 feet high should be planted, and the trees set 24 to 30 feet apart, according to the varieties. Blenheim Orange Pippin, which forms a large, spreading head, requires even more space than 30 feet, and the upright growers rather less than 24. Holes of 6 feet in diameter should be prepared by taking off the turf 3 inches in thickness, placing this aside, and removing the soil below to the depth of 2 feet; then chop the removed turf into small pieces, and place in the bottom of the hole, filling in the soil, and finishing off with a mounded surface; no trampling of the soil should be done, as it will settle of itself before planting time arrives. Good varieties of Apples for cultivation in this form are Keswick and

Manx Codlins, Blenheim Orange Pippin, Lodington Seedling, Bramley's Seedling, Lane's Prince Albert, Gloria Mundi (on heavy soils only), Waltham Abbey Seedling, Dr. Harvey of the Eastern Counties, Wellington and Hambleton-deux-Ans; of dessert varieties, King of the Pippins, Fearn's Pippin, Gravenstein, the white and red Juneating are amongst the best. Of Pears: Beurré Clairgeau, B. d'Amanlis, B. Capiaumont, Louis Bonne of Jersey, Williams' Bon Chrétien; and the stewing varieties Catillac, Verulam and General Todleben. Cherries: Bigarreau Napoleon, Kentish Bigarreau and Waterloo Heart. May Duke will do well in some situations, but as a rule it is tender, and if any trees are planted the warmest corners should be chosen for them.

Hints on Work in General.—Take advantage of fine days to gather such Apples as part readily from the shoots. Apples are not likely to keep long in good condition this season, the fruits being soft owing to lack of sunshine. Strawberry-plants should be denuded of all runners if these are not wanted, and the ground between the plants hoed. Filberts and Cob-nuts are now ripe, and should be gathered and stored in a cool, not over dry cellar, or the kernels will shrivel.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Chrysanthemums.—The shoots of these plants, owing to lack of sunshine, are rather immature, and as a consequence the flowers will not be of a very high standard. The time has arrived when many of the plants must be placed under glass, although at the time of writing the weather is mild; still, cold nights and probably hoar frost may return at any time, and it would be unwise to trust outside any longer such of the plants as are showing colour in the flower-buds. Varieties for furnishing flowers from the middle of the month of December and onwards should remain out-of-doors as long as it is safe to leave them there, a few degrees of frost doing such plants no harm provided the buds are not bursting. Let the pots be scrubbed, decayed foliage removed, and weeds as well as forward suckers be pulled out; and in arranging the plants for effect see that the colours are blended in a pleasing manner. The flowers last a very much longer time when staged within 2 feet of the roof. Afford full ventilation by day and less by night while the weather remains mild. Examine them twice daily as to water requirements, and apply manure-water to plants which are not showing colour in the flower-buds. Fumigate two evenings in succession if black-fly infest them ever so little, and dust with flowers-of-sulphur should mildew appear, which is quite likely after such a season as the present.

Violets.—These plants for flowering in the winter and early spring are better grown in brick pits than in wooden garden frames of the ordinary kind; and if the former have been employed for Cucumbers or Melons the past few months, with tree-leaves and stable-manure as a means of supplying bottom-heat, all that will now be necessary will be to remove the plants and fill to within a foot of the rafters with similar soil, making it firm by trampling. The surface of the bed should come to within 9 inches of the glass. The layer of soil in which the plants are set out should be of a moderately light nature. Lift the Violet plants with a good ball of soil, cut off all runners, and plant out at from 4 to 6 inches apart, according to variety, pressing the soil firmly around the roots, and applying water freely. The lights should not be kept on the pits till frost threatens, but be pulled back every fine day, a close atmosphere being fatal to Violets; a south or south-east site is best during the winter, and it should be far away from tall trees and buildings.

Primulas.—Plants which may be standing in cold frames should be placed without delay on airy shelves or on the front stage of a greenhouse within a few feet of the roof, and allowed to expand their flowers; and if fire-heat be used at all let it be employed during the day when full ventilation can be given. Cyclamens require a similar kind of treatment.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, Oct. 13—
 THURSDAY, Oct. 15—

Royal Horticultural Society's Committees meet. Lecture on "Autumn Strawberries and Raspberries."
 Royal Agricultural and Horticultural Society of Jersey's Show of Fruits and Vegetables.

SALES FOR THE WEEK.

MONDAY OCT. 12 and OCT. 14—
 At 12.30, at Stevens' Room, Dutch Bulbs, Palms and Decorative Plants.
 MONDAY to FRIDAY NEXT—
 Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30 A.M.
 TUESDAY, Oct. 13—
 Roses, Aucubas, &c., at Old Nurseries, Spring Grove, Isleworth: Protheroe & Morris.
 WEDNESDAY, Oct. 14—
 Conifers, Fruit Trees, &c., at Cockmanning's Nursery, St. Mary Cray Kent; Protheroe & Morris, at noon.—Palms, Azaleas, Plants, &c., 67 and 68, Cheapside: Protheroe & Morris, at 4.
 THURSDAY and FRIDAY, Oct. 15 and 16—
 Shrubs, Roses, Trees, &c., at Tunbridge Wells Nurseries: Protheroe & Morris, 11.30.
 FRIDAY, Oct. 16—
 Orchids, 67 and 68, Cheapside, E.C.; Protheroe & Morris, at 12.30.
 (For further particulars see our Advertisement Columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—51.7.

ACTUAL TEMPERATURES:—
 LONDON.—Oct. 7 (6 P.M.): Max. 63°; Min. 53°.
 Oct. 8 (Noon): 64°. Overcast.
 PROVINCES.—Oct. 7 (6 P.M.): Max. 59°, off Cromer; Min. 45°, off Aberdeen.

New Plant Breeding. IN the course of an address on "Varieties" at the recent Detroit Convention, Prof. L. H.

BAILEY, discussing the subject of new plant-breeding, said:—

"With most tree-plants, however, the difficulty is great, since the generation from seed to seed is so long that little can be accomplished in one man's lifetime. (What an opportunity METHUSELAH missed!) Of course, the same general methods must be applied to these plants as to others, but it is work that must be largely delegated to the professional experimenters. The general nurseryman can scarcely hope to take it up to any large extent. Definite plant-breeding work is now coming to be a business by itself. The old days and the old ways are passing. Yet I believe that there are some things that every nurseryman can do with efficiency and with profit to hasten the time of more efficient varieties. The first thing that I would urge is that attention be given as much as practicable to the particular plant from which cuttings or buds or scions are taken. I have already had this question up with several horticultural societies, but it always needs new emphasis and the evidence of new experience. By this remark, I do not mean to say that I was the first to present the idea, for I can trace this advice back certainly more than 200 years—thereby adding testimony to its importance. There are those who deny that the individual characteristics of a plant are in any way impressed on its bud-propagated offspring, but these persons are fewer each year and the evidence to combat them is constantly stronger. The whole tendency of modern plant-breeding, as we have seen, is to begin with a plant because it has individual merit rather than because it represents a particular variety. That is, we are constantly giving greater attention to individuality in plants. This the animal-breeder has always done. If no two Cuthbert Raspberry bushes and no two Early Crawford Peach-trees are alike, why not propagate from those that are best? I have an orchard of Crawford Peaches, all purchased from one of the best and most reliable members of this Association, but I have at least twenty kinds of Crawfords, some of them practically worthless. If I were to plant another Crawford orchard, I should want to know what trees the buds were taken from. If I were to propagate indiscriminately from my own orchard, persons to whom I should sell the trees would probably say

either that the stock was 'mixed' or that the Crawford had run out. Now, I admit that the stock would have been 'mixed' and yet every tree be a Crawford. Suppose now that I should propagate only from the very best trees, what then would likely be the result? I believe the time has come when the nurseryman must cease to propagate indiscriminately from stock merely because it belongs to a given variety. He should propagate only from stock or trees that he knows to have direct merit for efficiency. Another way of increasing the efficiency of varieties is by giving the variety the particular care that it needs. There are some varieties, as Ben Davis and Baldwin, that thrive almost anywhere and come to approximately their full value under all ordinary methods of treatment. These are the goats of the pomological sphere. There are others that are practically worthless unless some special attention is given them. The Spitzenberg Apple is one of these, an Apple that is not 'run-out,' as popularly supposed, but forced out because it does not have soil of sufficient heart, and does not receive sufficient care in tilling and pruning and spraying. Many of our really good varieties are going out because of this lack of special care. I am aware that the special care is expensive, but nevertheless there are many people who would like to grow these varieties if only they knew how. In many cases the extra care would be well repaid in an extra price for the product. Are we not likely to have a reaction from the Kieffer Pear propaganda, when some at least of the varieties that it has driven out shall reappear? If not, then the ideals of Pear growing are lowering rather than rising. But the larger side to this whole question is that we really cannot expect to make great permanent progress in varieties until we make corresponding progress in the care we give them. We shall continue to have razor-back varieties as long as we continue to give razor-back care. Merely to get a variety is only half the battle. You cannot raise good sheep on the provender that you give a billygoat."

NICOTIANA SANDERÆ x.—One of the most strikingly beautiful plants of the year was raised by Messrs. SANDER & SONS, of St. Albans, and exhibited by them at the Temple and elsewhere. N. affinis, with its fragrant white flowers, is a universal favourite. Less well known is a Brazilian species, N. Forgetiana, which bears numerous red flowers. By crossing the two Messrs. SANDER obtained a plant of bushy habit, with bold oblong leaves tapering at the base, and a loosely-branched inflorescence bearing a profusion of rosy-carmine flowers, shown of full size in our supplementary illustration. Our figure, drawn from the living plant, unfortunately lacks the beautiful colour, and to that extent does not do justice to the subject. It can be used for conservatory decoration or as a summer bedding plant.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Fruit and Floral Committees of the Royal Horticultural Society will be held on Tuesday, October 13, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 P.M. A lecture on "Autumn Strawberries and Raspberries" will be given by Mr. JAS. HUDSON, V.M.H., at 3 o'clock.

NATIONAL ROSE SOCIETY.—A meeting of the General Purposes Committee will be held at the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Tuesday the 13th inst., at 2 P.M., to arrange programme for 1904, to consider suggested alterations in bye-laws and regulations, and other business; and a meeting of the Committee will be held at 3 P.M., to fix the date of the Temple Rose Show in 1904, the date of the Autumn Rose Show in 1904, and alterations in bye-laws and regulations. Edward Mawley, Hon. Secretary.

PRESENTATION.—Mr. and Mrs. DAVID PRINGLE LAIRD, Pinkhill, Murrayfield, have just been presented with a handsome Silver Lamp on the occasion of their silver wedding by the employees of R. B. LAIRD & SONS, Ltd., nurserymen, Edinburgh. The presentation was made by the oldest employee, Wm. DEAS; Mr. LAIRD very suitably replying. Mr. and Mrs. D. P. LAIRD were married at Truro, Nova Scotia, on September 30, 1878.

PEACHES AT THE CHISWICK SHOW.—When extraordinarily fine Peaches are shown at an exhibition on the last day of September, judges who live in less favoured localities are apt to consider them to be house-grown produce. This was the case at Chiswick, when very large fruits shown by Mr. GEO. WOODWARD, of Barham Court Estate Gardens, Maidstone, were disqualified by the judges before asking any questions. Some of the fruits had been gathered from an outside wall, having had no protection whatever, and the remainder from a wall provided with a glass coping, a measure of protection permitted by the Royal Horticultural Society's schedule in the outdoor culture of Peaches. We believe that after an appeal by Mr. WOODWARD the disqualification was cancelled; and this circumstance proves that if judges would be a little more careful to obtain information before taking such a step as they did in this instance, a considerable amount of annoyance might be saved exhibitors, some of whom not unnaturally regard disqualification for such a reason as a slur upon their honour.

TYPE-WRITTEN LABELS FOR PLANTS, NOTICES, ETC.—The Remington Type-writer Co. has placed on the market a type-writer, writing block type, especially designed for such purposes as label-writing, the preparation of display placards, notices, &c. It will readily be grasped how useful such a machine as this would be for labelling exhibits, and for many other purposes connected with exhibiting nursery work and gardening generally. A great feature of the machine is that its work is absolutely indelible and indestructible.

BECKENHAM HORTICULTURAL SOCIETY.—We have received the syllabus of lectures and meetings of this useful and progressive Society for the winter season, October 2, 1903, to March 5, 1904, which contains announcements of a number of lectures on subjects of considerable interest to gardeners. The library and reading room at the Church House, Beckenham, is open on every Friday evening during the winter session.

"THE FRUIT GARDEN."—We are informed of the appearance this month of a book entitled *The Fruit Garden, Illustrated, Descriptive, and Cultural*. The authors are Messrs. GEORGE BUNYARD and OWEN THOMAS, both of whom bring a life experience to the work; and they are assisted by some of the best fruit growers in Great Britain, America, France, and the Channel Islands. The book deals with every aspect of up-to-date, practical, and scientific methods of cultivating fruit in Great Britain, both under glass and out-of-doors. The interests of the private garden and of the poor man's garden, with market wants, are considered. The primary object in view is to render the book a help to the attainment of success in the growth of fruit in the British Isles, and to encourage more extended cultivation among all classes. To this end the work is illustrated by about 400 outline sketches and photographs. All edible fruits known to British gardeners, exotic and hardy, are described in alphabetical order. Articles are included on the construction and heating of glasshouses, the building of fruit-rooms, spraying, pruning, and training trees, orchard-house management, the Tomato under glass and out-of-doors, remedies for diseases, and insect enemies. Whole fruit preserving is included, and chapters

on fruit culture, packing, and export, as practised in America, France, and the Channel Islands. *The Fruit Garden* is published at the office of *Country Life*, 20, Tavistock Street, Covent Garden.

AN INTERESTING EXPERIMENT.—We learn that the Gold Medal collection of hardy fruits exhibited by GEORGE BUNYARD & Co. at the recent Chiswick Show, has been sold to the Cold Storage Stores, Limited, Tottenham, who intend experimenting on it, with a view of reproducing it in good condition at a Spring Show in the Metropolis. Their works are at Tottenham.

VICTORIA REGIA.—Mr. F. W. MOORE, Royal Botanic Gardens, Glasnevin, Dublin, writes:—"On the evening of Monday 18th ult., two large and fully developed flower buds on the plant of *Victoria regia* in this garden opened simultaneously, and remained open during the night and also during the following day; they withered simultaneously on the forenoon of September 30. One leaf only was developed with these buds, which were on opposite sides of the plant. This is a unique experience in my cultivation of this glorious aquatic, extending now over many years. I have previously only seen one flower open, although a strong bud has frequently been above the water while it was in flower, but this bud would not open for two days after the open flower had withered. Cultivators of the *Victoria* will also know that with each flower a new leaf appears, these young leaves having frequently to be cut out to prevent overcrowding. These twin flowers developed together, appeared together, opened together, and withered together. I may add that the plant this season has been a very vigorous and free-flowering specimen. It would be interesting to know if any of your readers have had a similar experience."

PORTRAITS OF BOTANISTS.—Dr. WITTECK, of Stockholm, has prepared a catalogue of the extensive collection of portraits of botanists contained in the library of the Botanic Garden, Stockholm. Of many of them reproductions are given. Brief biographical details are also supplied, so that the publication is one of much interest to botanists. The text is in Swedish, but Latin summaries are added for the benefit of those not conversant with the Scandinavian tongue.

THE SURVEYORS' INSTITUTION.—The first ordinary General Meeting of the Session 1903-1904 will be held on Monday, November 9, 1903, when the President, Mr. ALBERT BUCK, will deliver an opening address. The Chair will be taken at 8 o'clock.

— THE INSTITUTION LIBRARY is open from 10 A.M. to 5.30 P.M. every weekday except Saturday, when it is open from 10 A.M. to 2 P.M. The attention of the members is specially called to the fact that the rooms of the Institution are open daily, and are available for reference to the library, for arbitrations, writing, appointments, or other business purposes.

BEGONIAS, SINGLE AND DOUBLE.—Messrs. T. S. WARE, of the Begonia Nurseries, Bexley Heath, Kent, sent us lately a large box containing an assortment of some of the finest Begonias we have seen. They were cut from the open ground, and although slightly damaged by rain were yet remarkable for size, symmetry, substance, and variety of colour.

"HARDY PERENNIALS."—This is No. 9 of a series of rural handbooks published by DAWBARN & WARD, of Farringdon Avenue, and edited by Mr. H. S. WARD. The author of *Hardy Perennials* is Mr. D. S. FISH, of the Royal Botanic Garden, Edinburgh, son of our well-known contributor and correspondent, the late D. T. FISH. In a small space we have useful cultural directions, and an alphabetical list of the most valuable

perennials, and many hints concerning their seasons of bloom, arrangement, &c. A few illustrations are included. We recommend the pamphlet to all needing a handy guide of this nature.

UNIVERSITY OF LONDON.—COURSE OF LECTURES ON ADVANCED BOTANY. — During the first term of the Session 1903-4 a course of eight lectures on "The Relation of the Composition of the Plant to the Soil in which it Grows" will be given by A. D. HALL, M.A., Director of the Rothamsted Experimental Station, at the Chelsea Physic Garden. The Lectures will be given on Tuesdays, at 3 P.M. The syllabus will be as follows:—

LECTURE I., October 13.

The Practical Problem.—Differences in value of various plants dependent upon their variation in quality and due to the soil in which they were grown.

The Scientific Problem.—The study of the various factors affecting nutrition so as to obtain light upon the ultimate chemical reactions by which plant synthesis takes place.

General ideas upon the composition of the plant and the course of nutrition. Functions of the soil in nutrition. Variable factors in the action of the soil-water supply, chemical composition, temperature. Interaction of these factors.

LECTURE II., October 20.

The stages in the development of a plant, assimilation and the accumulation of reserve material, its migration and maturation. The requirements of a plant as regards water. Effects of deficiency or excess of water at different stages. The texture of the soil as affecting the supply of water to the plant. Variation in the composition of the plant dependent upon heavy and light soils.

LECTURE III., October 27.

The ash constituents of plants. Their functions in the nutrition of the plant, effects due to their deficiency or excess. Amounts of ash constituents taken up by the various crops as compared with the amounts present in the soil. Selective action of plants. Theories of manuring based upon the composition of the ash. Law of the minimum.

LECTURE IV., November 3.

The analysis of the ash of a plant to obtain information as to the manurial requirements of the soil on which the plant was grown. Amount of variation to be found in the composition of the ash of plants. Comparison of ash analysis with soil analysis. Selection of test plants for analysis.

LECTURE V., November 17.

The Wheat Crop.—Stages in the growth of Wheat—cessation of nutrition, continuance of assimilation, the migration of the accumulated material to the grain. Quality of Wheat as affected by soil and climate. Characteristics of English and the various foreign Wheats. Relative stability of the composition of grain as compared with that of the whole plant. Variations in composition of Rothamsted Wheats due to manuring and season. Conditions upon which the quality of strength in Wheat depends.

LECTURE VI., November 24.

The Barley crop.—The difference in the elements constituting high quality in Barley and Wheat. Difference in the habit of growth of the two plants. Relation of these factors to the soils and manuring most suitable for Wheat and Barley respectively. Composition of root-crops grown at Rothamsted. Effects of soil and manure on the quality of the crop and its maturation.

LECTURE VII., December 1.

Adaptation of flora to soil conditions. Effect of long-continued differences in manurial treatment on the character of the herbage of the Rothamsted grass plots. Effects of nitrogen, potash, and lime on the relative dominance of gramineous or leguminous plants. Secondary effects on particular species due to the depth to which the manures enter the soil. Application of Rothamsted results to the interpretation of the composition of the herbage of other soils.

LECTURE VIII., December 8.

Intolerance of particular soil conditions exhibited by certain plants. Flora of acid soils. Causes of soil acidity. Reaction of the plant on the soil, maintaining a neutral condition. Calcifuge and calcareous plants. Effects of injurious constituents in the soil in inducing xerophytic structure. Alkali soils and their flora. Causes of the association of particular crops with certain types of soil.

A DISEASE IN PLUMS.—Dr. ERWIN SMITH describes in *Science*, vol. xvii., No. 429, March 20 1903, a disease in Japanese Plums, which shows itself first in the form of spots on the leaves, which become "shot holes." The spots on the fruits become deep cracks, which spoil the Plums. This disease is said to be due to a yellow Bacterium (*Pseudomonas pruni*), which enters the plant through the stomata.

RETIREMENT OF MR. MCINDOE.

In consequence of the death of Sir Joseph Pease, Bart., and the sale of the Hutton Hall estate, Mr. McIndoe, the well-known gardener, is shortly retiring from active service there. For nearly thirty years he has occupied the most prominent place in the field of not only Yorkshire but North of England horticulture. The writer of these notes has had the pleasure of his acquaintance during the whole of the time stated, and he has felt that some notice of his career should be recorded in the pages of the *Gardeners' Chronicle*. His remarks will be fairly brief, first, for fear that the exigencies of your space may compel the free use of the editorial scissors; and, secondly, one could not get the full details of the life of Mr. McIndoe without a close interview, which I feel sure would not be cared for either by the writer or by Mr. McIndoe. As his name shows, he is a native of Scotland, and was born in 1836, his native county being Renfrewshire. His father was a market gardener, and as a boy he entered early into what was to be his life's work. His first place on leaving home was in the gardens of Sir John Maxwell of Pollok, the head gardener at that time being a Mr. Campbell. Thence he went to Archerfield, under Mr. Young. These gardens were at that time, and for many years afterwards, when managed by Mr. David Thompson, considered to be amongst the best in Scotland. The young aspirant to horticultural fame was only about twelve months in his new place before he was made a foreman, being only twenty years of age at the time.

Later on we find him at Auckland Palace, Durham, as foreman at the age of twenty-one. Thence he went to Bishopthorpe Palace, and Addington Park, Croydon, both in the same position. As will be known to most readers of this journal, these three places were occupied by the then Bishop of Durham, the Archbishop of York, and the Archbishop of Canterbury respectively. In 1863 he was appointed gardener to Coles Child, Esq., Bromley Palace, Kent, which at that time was a place of note in the gardening world, seeing that some hundreds of applicants applied for it when then vacant. A few years afterwards Mr. McIndoe became gardener and farm bailiff to the then Archbishop of York at Bishopthorpe, near York, where he remained till the winter of 1874, when he removed to Hutton. It was here that the chief work of his life was to be done. At that time Mr. Joseph Pease was rebuilding the mansion, making new gardens and erecting a splendid lot of new glass-houses. The new gardener entered into the spirit of the whole affair with well-directed enthusiasm and, on the whole, very sound judgment. It was quite a treat to meet him at York Gala each year, and hear his vivid but guarded description of the new work done and being done under his management. Very shortly he began bringing object-lessons of his work and care for the judges to look upon and the public to admire. While in no sense wishing to unduly magnify Mr. McIndoe's doings as an exhibitor of fruit, this much may fairly be claimed—that no other gardener has for 25 consecutive years, at a first-class show, won so many prizes for fruit as he has done at York. To go further into his record in this respect would be simply to write a catalogue. This much may be added: Mr. McIndoe has often

told me that the time he felt most gratified as an exhibitor was in 1897 at Shrewsbury, when he was awarded 1st prize in the Victoria fruit class for sixty dishes of fruit illustrating the produce of British gardens. Besides the money prize given by the Shrewsbury Committee, the Gold Medal of the Worshipful Company of Fruiterers, London, and two other valuable medals were awarded to this exhibit. As is well known, he was one of the first sixty to whom the Royal Horticultural Society gave the Victoria Medal of Honour later on in the same year. But enough on this head. Mr. McIndoe found time to interest himself in the social and religious well-being of his neighbours at Hutton. For many years he acted as a churchwarden, and in other ways found an outlet for his judgment and ability. I think that as a body gardeners might fitly do more of this wherever their lot in life is cast.

Having had the misfortune to lose his wife some three years ago, Mr. McIndoe will make his future home with a married daughter at Dartford,

afford heads nearly all the year round in the South of France, where Artichokes are grown extensively. In any district the heads would be fit for cutting unusually early, and if taken young are described as delicious when eaten with oil and vinegar, the scales being so crisp and fleshy (fig. 109).

THREE-PODDED PEA.

This variety resembles in size and earliness a well-known French Pea, Clamart, largely grown around Paris for canning purposes; the pod, however, is more curved, fills well, and is generally produced in trebles. A good Pea for market gardeners or owners of large private gardens (fig. 110).

(To be continued.)

HOME CORRESPONDENCE.

HUMEA ELEGANS AND PEACH-TREES.—After reading the remarks by Mr. Smith, p. 228, on the above subject, it will be necessary for me to explain my experience with the Humeas more fully. The



FIG. 108.—CAULIFLOWER INCOMPARABLE.

in Kent. He has been appointed to superintend the laying-out and planting a public park for that town. This, with his position as Consulting Horticulturist to the Metropolitan Asylums Board and other opportunities that will occur, will give full scope for his abilities. Y. G.

[A portrait of Mr. McIndoe was published in these pages, August 23, 1902. ED.]

NEW PARISIAN VEGETABLES.

OWING to the courtesy of Messrs. Vilmorin, Andrieux & Co., we are enabled to give illustrations of some new varieties of vegetables that have lately been introduced by this renowned firm of French nurserymen, and which have special interest in connection with the recent Vegetable Show and Conference. The illustrations are the copyright of Messrs. Vilmorin et Cie.

CAULIFLOWER INCOMPARABLE,

though resembling Autumn Giant, is said to be earlier. The heads are of large size, good form, white, and compact. It is recommended as an excellent variety for market purposes (fig. 108).

"GLOBE ARTICHOKE PERPETUAL"

is so named because the variety, when afforded water as often as necessity arises, is said to



FIG. 109.—GLOBE ARTICHOKE PERPETUAL.

the front trellis in our second early Peach-house towards the end of April. Shortly afterwards the trees on the front trellis got scorched—Walburton Admirable and Stirling Castle Peaches slightly; but the middle tree, a Violette Hative Nectarine, badly; while the trees on the back wall entirely escaped. Thinking perhaps that the trees required water, an examination of the border was

time of year when the Humeas were placed in the Peach-house would be some time early in May or thereabouts, when the trees would be making young growth and receiving early forcing treatment, which means a close and humid atmosphere. The Humeas would also be in exuberant growth, as they were placed there with a view to increase their growth, preparatory to their being planted out by the first or second week in June to form a back row for a long ribbon-border. I can now recall to my memory that whilst placing the Humeas in the Peach-house I had some misgivings as to the wisdom of putting so many of those strong-smelling plants in a house at so tender an age of the Peach-tree leafage. As already explained, my fears were well grounded; we had to shift the plants quickly. Mr. Smith in his note states that their Humeas were in the Peach-house "all summer," with very probably ripened leafage, and, we will also surmise, abundance of top and bottom air, which of course would completely alter the conditions and account for the healthy leafage of their trees. Mr. Smith will perhaps kindly also further explain. W. Miller.

I have read with considerable interest the several articles which have recently appeared in these pages on the above subject, and having had similar experience to Mr. Fyfe, these few lines may not be without interest. We had a batch of about thirty-six Humeas in 9-inch pots, and being short of room I had them arranged under the trees on

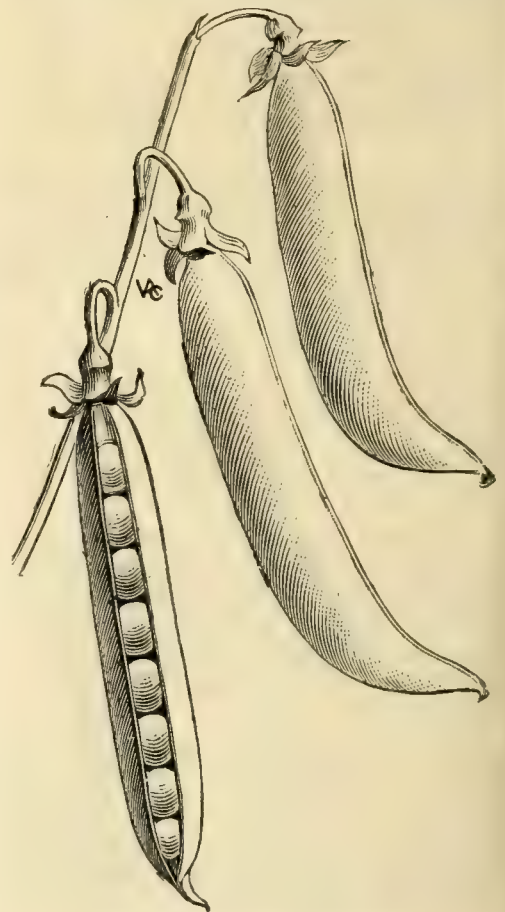


FIG. 110.—TAIL THREE-PODDED PEA.

made, but found to be quite moist. I was therefore at a loss to know the cause of the mischief, never once suspecting that the Humeas had anything to do with it until I read Mr. Fyfe's note on the matter. Taking into consideration all the circumstances of the present case, I can arrive at no other conclusion than the one put forward by several of your correspondents. Immediately after the Humeas were shifted outside, about the middle of June, the Nectarine-tree, which was practically at a standstill all this time, commenced at once to make fresh growth, but the fruit finished smaller than usual. I am sending you some of the leaves affected at the time, and also some of the same shoots made after the removal of the Humeas. *J. Fulton, gr., Graemes Dyke, Harrow Weald, Middlesex.* [The leaves our correspondent sent for our inspection quite bear out his statement that they were injured by something whilst the Humeas remained in the Peach-house, being small in size, full of holes,

A REGRET, AND SOME NEW VARIETIES OF THE POTATO.—The district auditor cited me to appear, on the 29th inst., at the Board Rooms, at Bradfield, Berks, for the auditing of my Poor Rates for the parish of Sulhamstead. I felt how much more congenial for me it would have been to have visited the dear old Royal Horticultural Society's Garden at Chiswick, which has been familiar to me through all its successes and vicissitudes since the year 1835, when I was for the first time taken there to a Royal Horticultural Fête by the then President, T. A. Knight. I am glad to read that the events were successful. I should have felt sorrow too in visiting the old garden for the last time. I shall have a lot to inform you about them some day; but allow me to mention now that I am lifting and storing my new strains of North-American hybrid Potatoes. This has been a test-year for them. They are behaving very well indeed. It has taken me twenty-eight years to arrive

GOURDS AT THE GROVE, STANMORE.—In Mrs. Brightwen's garden many singular-looking Gourds are grown by her gardener, Mr. J. W. Odell, and the plants are still well furnished with fruits. In all parts of the garden some species of Gourds are to be found. In the warm-houses *Benincasa cerifera* has many of its large oval fruits, which are rendered all the more beautiful by the whitish waxy appearance of the skin and the dense, short, hair-like covering on the surface. This Gourd is said to be used generally throughout India in the immature state in curries. It is widely distributed in Tropical Asia and Africa, and, like many other Gourds, has probably been in cultivation so many hundreds of years that its true native habitat cannot be determined. Also in the warm-houses are plants in fruit of *Momordica Charantia*, whose fruits when mature split, exposing the red seeds; *Luffa ægyptica*, *L. acutangula* and other singular species. In the cool-house *Ecballium Elaterium*, when mature,



FIG. 111.—VIEW IN THE PARK OF THE LITTLE TRIANON, VERSAILLES. (SEE P. 254.)

wagged at the edges, and in places browned or, as he says, scorched. Those taken from the trees subsequently to the removal of the Humeas are large, and uninjured in any way. Can there be any connection between the disease that decimated the Humeas a few years ago and the above-mentioned condition of the Peach leaves? Ed.]

SEEDS OF DICTAMNUS FRAXINELLA.—I enclose a seed of *Dictamnus Fraxinella*. I am sorry that I have only one left, but if you cut it in two longitudinally and touch either of the halves with the steel blade of a knife, you will observe what a strong attraction it has for steel. Once when I put the blade of my knife to about the sixteenth of an inch from the half seed, it seemed to jump to it. Perhaps you may be able to say if there is any record of these seeds possessing the property of magnetism or electricity. I cannot find any, and I shall be obliged if you can give me any information about it. *A. B. Steele.* [We should be glad if some correspondent would oblige us by sending us half-a-dozen seeds for trial. The seed sent us did not behave as it ought to have done, but trial was not made till some time after it had been received. Ed.]

at their present stage, and it will take me some five or six years more before I can make the majority of them fit for commerce. By-the-bye, what men we have in the Potato world nowadays, and what wonderful prices, it is said, they are receiving per lb. for their seedlings! Of course we all know that the last well-advertised Potato is the best! Nevertheless, I still claim to be taking the lead by adding fresh blood, so to speak, in order to prolong the existence of the noble tuber. Let me add how honoured I felt last week when I saw my portrait introduced in your pages amongst those good men and true. *R. Fenn, Sulhamstead, Oct. 6, 1903.*

THE REPRODUCTIVE POWER OF TURNIP-SEED.—When harvesting Dobbie's Golden Ball Turnip-seed this summer at Orpington, I was struck with the appearance of a remarkably fine plant. I had it saved by itself and thrashed out. The weight of seed was $8\frac{1}{4}$ ounces. I counted the seeds in 1-16th of an ounce, and found they numbered 1,120, which works out at 147,840 for the $8\frac{1}{4}$ ounces. Thus a single seed sown in July, 1902, has reproduced itself 147,840 times in a twelvemonth. *William Cuthbertson.*

ejects its pulp and seeds forcibly, and *Cyclanthera explodens* has many spiny fruits, which burst and scatter the seeds when touched. *Cyclanthera pedata*, *Megarrhiza californica* and others are equally interesting. Outdoors the best show is on a broad arch or rustic covered way supporting a *Cucumis ficifolia*, the very large green fruits of which, striped with white, are very handsome. In one of the houses is a specimen of *Trichosanthes anguina* (Snake Gourd), with long whitish fruits having an odour of Melons.

FOREIGN COMPETITION.—It is of no use blinking the fact that the horticultural trade of this country is being seriously threatened by the enterprise of foreign competitors, whose priced catalogues are now reaching us in considerable numbers. I attribute this fact to the injudicious publication of the names and addresses of the thousands of subscribers to the Royal Horticultural Society, though the names of supporters in New Zealand are, curiously enough, conspicuous by their absence from the book. Just now orders for bulbs and plants are being considered both by professional and private persons, and, all things being equal, the difference shown

in favour of foreign buying is so very great that I should doubt if head gardeners who have received the Continental catalogues would be justified, in their employers' interests, in continuing business with English firms, with whom, perhaps, they have dealt for years, although it is not improbable that in many instances a tempting inducement is held out to them to do so. Such a system is obviously destructive of the confidence which should exist between master and man, and should be discountenanced in the most decided manner. Possibly, on the figures shown below, Mr. Chamberlain may elect to consider the fiscal position of Dutch roots, and at once apply a fundamental remedy. I think one may well alter the trite saying to—

"In matters commercial the fault of the Dutch
Is asking too little and giving too much."

J. S. C.

[With the above communication comes a tabular statement showing the retail prices asked for a large number of different bulbs by an English and by a Dutch firm respectively. Nothing is said about quality, but in every single instance the Dutch price is lower, often considerably lower, than the English. The aggregate number of shillings asked by the Dutch is 258s. 6d. for the same bulbs as are marked at 443s. 4d. by an English firm. In addition to these apparently "cutting" prices it will be remarked that the address of the gardener is specially asked for in the catalogues, and in one or two instances, which were brought under our notice last year, large (we may say, very large) pecuniary inducements were made to the gardener to deal with a certain firm. This constitutes a great difficulty in dealing with the commission question. Public opinion, if not the law, is decidedly adverse to anything like illicit commissions; but what would our Continental friends care for public opinion or British law? ED.]

NORTHERN STAR POTATO.—Following the interesting article by "R. H. P." on the above Potato in last week's issue of the *Gardeners' Chronicle*, permit me to give details of the result of one tuber. Last spring a friend sent me a Potato of Northern Star, weighing 1½ oz. I cut it in two and planted the "sets" on April 14. We lifted the crop on October 2, when one set yielded 12 lb., and the other 11½ lb., or a total of 23½ lb. of Potatoes from 1½ oz. of seed. The tubers number sixty and are all sound. *John H. Cumming, Grantully Castle Gardens, N.B.*

LINARIA CYMBALARIA ALBA.—In reply to the question asked by a correspondent in the *Gardeners' Chronicle* of September 26, I have seen the white-flowered variety of *Linaria cymbalaria*, which I have also observed offered in catalogues, though but rarely. It is not frequently seen however. *S. Arnott.*

—In answer to your inquiry (p. 225) I send you some branches of *Linaria cymbalaria alba*, which we grow in masses here in the Jardin Alpin d'Acclimatation, at Floraire, Geneva. I found this variety several years ago in the walls between Clusone and Castione, in the Bergamesque Alps (Italy). We have sent already many hundreds of the plant to many countries. *H. Correvon, Geneva.*

—Regarding your correspondent's query about a white form of *Linaria cymbalaria*, I may say there is a white-flowered form of it here (Killerton); it bids fair to become as common as the type, from which it differs in no way except in being white, with a yellow blotch on the lip. *John Coutts, gr., Killerton, Exeter.*

—There is a white-flowered form known in gardens. I think seed is sold under the name of *L. cymb. major* or *maxima*, and produces plants larger in all parts than the type, and with flowers varying from pale lilac to pure white. I have grown it in the rock-garden, but have not seen flowers this season, it, like most of my self-sowing annuals, having failed. *E. Bowles.* [Messrs. Cunningham, Fraser & Co., of Comely Bank Nurseries, Edinburgh, send us a specimen of the white variety, which has been established for many years on the wall of a greenhouse in their establishment. The plant sent is producing seed-pods. ED.]

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 29, 30, and OCTOBER 1.—On the occasion of the show of fruits and vegetables at Chiswick last week, several of the Committees sat for the consideration of new plants, flowers, fruits, and vegetables. A note upon the Orchids exhibited was published in our last issue, but the proceedings of the Floral and Fruit Committees were held over owing to the extraordinary pressure upon our space.

There were some exhibits at the Show that, being outside the competitive classes, were not noticed in our report. Among these was the excellent exhibit of Grapes from the gardens of His Majesty the KING at Cumberland Lodge by Mr. A. McKellar, which showed how greatly the cropping qualities of this very old Vine have been improved. Also very fine fruits of Smooth Cayenne and Queen Pineapples from His Majesty's gardens at Windsor.

Mr. GEO. CANNON, Cannon's Nursery, Ealing, exhibited a collection of trained fruit-trees in pots, and other miscellaneous exhibits were shown.

Floral Committee.

Present: W. Marshall, Esq., chairman; and Messrs. Chas. T. Druery, Charles Jeffries, W. J. James, Herbert J. Cutbush, A. Perry, E. T. Cook, R. W. Wallace, Chas. Dixon, W. G. Baker, Jno. Green, C. J. Salter, G. Reuthe, W. P. Thomson, Jas. Walker, E. H. Jenkins, Wm. Cuthbertson, R. Dean, and John Jennings.

Awards of Merit.

Chrysanthemum Polly.—An early-flowering variety, with medium-sized bronze and yellow coloured flowers, composed of broad florets. Shown by Messrs. W. WELLS & Co., Ltd., Earlswood Nurseries, Redhill.

Lilium speciosum magnificum.—An extra fine variety of this popular Lily, like a glorified *L. speciosum roseum*. Shown by Messrs. WALLACE & Co., Kilnfield Gardens, Colchester.

Cactus Dahlia, Spotless Queen.—A medium-sized flower of good shape and substance; white, tipped with green in the centre. Shown by HOBBIES, Ltd., Dereham.

Cactus Dahlia, Spitfire.—A very floriferous variety with shapely scarlet flowers, borne on long stems well above the foliage. Shown by Messrs. DOBBIE & Co., Rothesay.

Cactus Dahlia, Mr. Amos Perry.—A vigorous-growing variety with large bright crimson and scarlet flowers. Shown by HOBBIES, Ltd., and Messrs. DOBBIE & Co.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq., Chairman; and Messrs. A. H. Pearson, F. Q. Lane, W. H. Divers, H. Eslings, Geo. Wythes, G. Norman, J. Willard, E. Molyneux, E. Beckett, W. Crump, James H. Veitch, S. Mortimer, W. Iggulden, J. Jaques, W. Bates, P. C. M. Veitch, John Basham, and George Kelf.

The Secretary of the Royal Horticultural Society has obligingly forwarded us a list of Medals and Cups, &c., awarded at Chiswick. We make the following abstracts, omitting those that have already been given in our report last week. In Division II. and VII. the value of the Medals awarded was not given in the schedule, nor determined upon at the time our notes were taken:—

DIVISION II.

CLASS 14.—FOR FRUIT GROWN ENTIRELY OUT-OF-DOORS
(32 feet run of 6 feet tabling).

1st, Gold Medal, to Messrs. G. Bunyard & Co., Ltd., Maidstone.

2nd, Silver-gilt Knightian Medal, to Messrs. J. Peed & Son, West Norwood, S.E.

3rd, Silver Knightian Medal, to Mr. John Basham, Bassaleg, Mon.

CLASS 15.—FOR FRUIT GROWN ENTIRELY OUT-OF-DOORS
(16 feet run of 6-feet tabling).

1st, Hogg Memorial Medal, to Mr. J. B. Colwill, Sidmouth.

2nd, Silver-gilt Knightian Medal, to Mr. Geo. Mount, Canterbury.

3rd, Silver Knightian Medal, to Messrs. Pewtress Bros., Hereford.

CLASS 16.—FOR ORCHARD-HOUSE FRUIT AND TREES.

1st prize, Gold Medal, to Messrs. G. Bunyard & Co. Ltd., Maidstone.

DIVISION VII. (VEGETABLES).

CLASS 92.—COLLECTION OF VEGETABLES
(Occupying not more than 100 square feet, open to the Trade only).

1st prize, Silver-gilt Knightian Medal, to Messrs. R. Smith & Co., Worcester.

CLASS 92a.—COLLECTION OF VEGETABLES
(Occupying not more than 50 square feet, open to the Trade only).

1st prize, Silver-gilt Knightian Medal, to Messrs. R. Veitch & Sons, Exeter.

2nd prize, Silver-gilt Banksian Medal, to Messrs. J. Cheal & Sons, Crawley.

3rd prize, Silver Knightian Medal, to Messrs. G. Bunyard & Co., Ltd., Maidstone.

CLASS 93.—COLLECTIONS OF VEGETABLES
(Occupying not more than 50 square feet, Amateurs).

1st prize, Sherwood Silver Cup (value £10), to Lord Aldenham, Elstree (gr., Mr. Beckett).

CLASS 94.—COLLECTION OF VEGETABLES

(Occupying not more than 24 square feet, Amateurs).

1st prize, Veitch Memorial Medal, to Lord Bolton, Basingstoke (gr., Mr. Bowerman).

CLASS 95.—COLLECTION OF 18 VARIETIES OF POTATOS.
(Open to the Trade only).

1st prize, Silver-gilt Knightian Medal, to Mr. R. W. Green, Wisbech.

2nd prize, Silver-gilt Banksian Medal, to Mr. J. B. Colwill, Sidmouth.

3rd prize, Silver Knightian Medal, to Messrs. R. Veitch & Son, Exeter.

CLASS 97.—COLLECTION OF 12 VARIETIES OF POTATOS
(Amateurs).

1st prize, Bronze Williams' Memorial Medal, and £2, to the Earl of Lathom, Ormskirk (gr., Mr. B. Ashton).

MISCELLANEOUS.

GOLD MEDAL.

To H.M. the King, Windsor Castle (gr., Mr. McKellar), for Grapes and Pineapples.

To Messrs. Jas. Veitch & Sons, Ltd., Chelsea, for a Collection of Vegetables.

To Messrs. T. Rivers & Son, Sawbridgeworth, for Fruit Trees in Pots.

To Messrs. Dobbie & Co., Rothesay, N.B., for (a) Collection of Potatoes, (b) Collection of Vegetables.

SILVER-GILT KNIGHTIAN MEDAL.

To Messrs. Sutton & Sons, Reading, for Potatoes.

To Messrs. H. Cannell & Sons, Swanley, for a Collection of Vegetables.

SILVER KNIGHTIAN MEDAL.

To the Horticultural College, Swanley, for a Collection of Vegetables.

To the Agent-General for British Columbia, Finsbury Circus, for Canadian Preserved Fruit.

To the Marquis of Exeter, Stamford (gr., Mr. Metcalfe), for Melons.

SILVER BANKSIAN MEDAL.

To Mr. R. W. Green, Wisbech, for Potatoes.

To Messrs. J. King & Son, Coggeshall, for Cabbages.

To Messrs. Harrison & Sons, Leicester, for a Collection of Vegetables.

To Mrs. A. Bramwell, Kingsworthy, Hants, for Onions.

CONFERENCE ON VEGETABLES.

A CONFERENCE was held in the afternoon of Tuesday, September 29, at Chiswick, in connection with the Exhibition, the record of which has already been published, and was well attended.

Mr. GEORGE BUNYARD, of Maidstone, presided, and in opening the proceedings said that by virtue of the position which he had the honour to hold as Chairman of the Fruit Committee of the Royal Horticultural Society, it was his privilege to say a few words on that interesting occasion. Naturally his mind went back to the first great Apple Conference of 1883, and the object of the Society in holding the present meeting was to endeavour to demonstrate the progress which had been made in hardy-fruit culture since that period. He could not but refer to the state of affairs in 1883, when the Council of that date observed what might be called a benevolent neutrality. The Conference would never have been held at that time had it not been for the persistent efforts of Mr. A. F. Barron, who, had he been spared to be with them now,

would have been gratified to recognise the substantial progress made during these twenty years. How different was their position to-day, when the Council of that ancient Society not only initiated the present meeting, but also contributed to it a considerable sum and many medals as a reward for successful culture, and by their hearty sympathy and co-operation had done everything in their power to make it a great success. Personally he looked upon the exhibition of fruit which they had before them to-day as a distinct triumph, and as a telling testimony to the skill, energy, and perseverance of cultivators during one of the most inclement seasons on record. Because during 1903, from the very earliest of the fruit blossom, they had had constantly to contend with adverse circumstances, whether in regard to climate, the manifold insect pests, or the continuous rainfall which had obtained up to the present time. So far he had been speaking as regarded the Fruit Exhibition.

Before, however, he left that department he would like to call cultivators' attention to the advantages which the culture of fruit in cold orchard houses presented in disastrous seasons such as that through which they had passed. A glance at the fruit in the examples in the Orchard House classes would make this remark obvious to all, although the earlier fruits, such as Cherries and Plums, were now past.

In the culture of VEGETABLES, of which they had a remarkable collection shown, the care, skill, and attention were quite as evident as in the case of fruits. While the wet weather had been favourable to certain kinds, it had required constant effort to produce these splendid examples which they saw before them. They would agree with him that it was a happy idea on the part of the Council thus to link together both hardy fruits and vegetables in one exhibition, because in those two directions there were, he thought, yet vast possibilities. And whether as food for the people or as luxuries for those who could afford them, in both instances they had a distinct contribution to their welfare and general health. A study of the health reports of London and other large cities would, he believed, reveal the fact that the health and well-being of the people were directly dependent upon a plentiful supply of both vegetables and fruit at a price within the reach of all classes, while in the country the allotments had become a great boon. Reverting again to 1883, one could but regret and record the loss of many expert cultivators, who, however, had left their mark on the subjects of which he had spoken. To mention a few names which stood out prominently, there were R. D. Blackmore, of Teddington, Charles Haycock, of Barham Court Gardens, Dr. Robert Hogg, H. Lane, John Lee, Thomas and Francis Rivers, John Woodbridge, of Syon House, Malcolm Dunn, of Dalkeith, Shirley Hibberd, W. Ingram, of Belvoir, W. Wildsmith, of Heckfield, and others whose names will always be gratefully remembered as having contributed to their knowledge of fruit and vegetable culture in this kingdom. Then there was James Smith, of Mentmore. He could bear testimony to his wonderful ability and power of work. It was intended to pass a vote of sympathy later on, but he trusted that that mention would show that he was not overlooked, and formal notice of the matter would be most likely taken at the next committee meeting.

The present Conference would be notable as the last held in those historical gardens; but under the altered conditions at Wisley and with the new Hall, it was expected that very valuable work would be accomplished by the Society. (Cheers.)

VEGETABLES ALL THE YEAR ROUND FOR A PRIVATE FAMILY.

Mr. W. H. DIVERS, gardener to the Duke of Rutland, Belvoir Castle, then read a paper on "Vegetables all the Year round for a Private Family." He said this was a subject upon which many disputes had arisen. We read of one which took place more than 3,000 years ago, when the Children of Israel reproached Moses because they had not the Cucumbers, Melons, Leeks, Onions, and Garlic which they had had in Egypt in abundance. This was interesting to us as showing that vegetables were cultivated in quantities in those early days. We occasionally heard of disputes now upon the same subject, and he generally found they were caused by the want of proper structures for growing vegetables in the dark days of winter and in the early part of the spring. To keep up a good supply

at those times a large quantity must be grown because growth is slow under such unnatural conditions. The following kinds might be had throughout the year if proper facilities were given for their cultivation:—French Beans, Broccoli and Cauliflowers, Cabbages, Carrots, Cucumbers, Mushrooms, Onions, Potatoes, Spinach, Tomatoes, Turnips; and for salad, Lettuces, Mustard and Cress. Where means were available for retarding roots, this list might be extended to include Asparagus, Seakale, and Rhubarb. It was possible even now to purchase roots of Seakale in a retarded state, but they were expensive, but he looked forward to the time when a suitable retarding-house would be available in all good establishments. He then referred to a few structures without which it was impossible to have a continuous supply of choice vegetables during the cold period of the year. The chief place must be given to forcing-houses. These houses need not be large, but the number and size of them must depend upon the quantity of vegetables required. It was especially important that they should be as large as possible, in order to catch all the sunshine, and they must be well heated. Lean-to or hip-houses running east and west were the best. For early Potatoes, Carrots, Radishes, Lettuces, Beet, Asparagus, and succession crops of French Beans and Peas, brick pits with movable lights, 6 feet by 4 feet, were quite sufficient. These must have a hot-water pipe all round with valves for adjusting the heat. Instead of brick pits, frames made of 3-inch deal planks might be used; they had the advantage of portability and could have extra coverings in severe weather. A good Mushroom-house was also necessary. This need not be an expensive structure, but owing to the moist atmosphere necessary for Mushrooms it must be built of substantial materials. For growing Mushrooms throughout the summer a cool cellar is necessary. Store-rooms were necessary for Onions, seed Potatoes, and a supply of all roots in frosty weather. A cold storage room should also be provided in all good gardens.

But the chief aid to a good supply of vegetables was a good kitchen-garden. The site chosen for this should have a deep soil that could be dug or otherwise operated upon in showery weather. He had found Northamptonshire red sand to be the best of all. It was easily worked to three feet in depth, and wet weather interfered with it but very little. The chief advantage perhaps was the fact of its requiring such a small amount of manure. The only vegetable that did not succeed well was the Turnip, and probably that would have done better if the means of applying superphosphate or a similar manure had been allowed. It was a mistake to select a position for a garden on an unsuitable soil, and imagine that cultivation would compensate for that disadvantage. If the ground sloped gently to the south it would be warmer and better drained, or a gentle slope to the east or west would be better than a dead level; but ground sloping to the north must be avoided. Shelter was extremely valuable in the kitchen-garden. It had been usual to surround kitchen-gardens with walls 10 to 12 feet or more in height.

A suggestion was made some years ago to build glass-houses around the kitchen-garden in place of walls, but he was not aware of its having been carried into practice. Hedges had the disadvantage that the roots travelling into the garden robbed the vegetables. For the same reason large forest trees should never be grown within 100 yards of the cropping-ground. The shape of the garden had an important bearing on the supply of vegetables. He much preferred an oblong shape if the largest diameter was from east to west, because it gave a greater extent of warm borders, i.e., those with a south aspect; and conversely, cool borders with a north aspect. These were two important items in extending the supply of various vegetables. The size of the kitchen-garden must depend upon the number of persons to be supplied. It was not always possible to follow a strict rule as to the rotation of crops, but a few broad principles must be adhered to. Two crops of the same kind should not follow each other. Leguminous crops did not require so much added nitrogen as green crops. They were therefore followed by Cabbages, Brussels-Sprouts, and such things which required a larger amount of nitrogen, and more soda, lime, and sulphuric acid than Peas and Beans. The chief mineral constituent of Potatoes was potash, and this vegetable should therefore follow a green crop, such as Cabbages, which did not require so much of it. Carrots, Parsnips, and Beet formed badly-shaped roots if fresh manure was dug in shortly before sowing the seeds, and they

also required ground that had been moved to a good depth when digging. By sowing them on ground previously occupied by Celery, all these conditions were secured, as the ground always contained a quantity of fertilising material which had not been appropriated by the Celery. It was of the utmost importance that the seed should be properly ripened and of a true strain. It was important to thin early and thus let the young plants have a chance to grow vigorously from the first. For a private family, size was not the chief point to be considered. Quality stood first, and next a continuous supply. Show vegetables were not appreciated by the consumer. Moderate-sized produce which could be cooked without slicing would always be of the best flavour. Green vegetables were easily spoiled by an excess of manure. Many soils would grow these vegetables without fresh manure being applied, and if a dry period intervened and the grower was not satisfied with the progress made it was an easy matter to give 3 oz. of superphosphate and 1 oz. of nitrate of soda per square yard, and hoe it in at once or rake the surface with a coarse iron rake. Where a large supply was required, he found it best to rely on varieties that had been thoroughly tested. He must here complain a little about the nurserymen. There were too many so-called varieties of many of our vegetables, and every nurseryman seemed anxious to add his name to all of them. For instance, a few months back he had the old International Potato sent to him with the name of a firm of seedsmen attached to it. All this was really absurd. It made no difference to the variety whether Dick, Tom, or Harry affixed their name to it, but it was confusing to some of the growers. Again, a selection was sent out under a new name at an advanced price. He quite admitted that extra work in seed saving should be paid for, but he objected to buying an old thing under a new name, and to find afterwards that he had abundance of the same thing elsewhere. The remainder of the paper dealt at considerable length with the different varieties of vegetables, with suggestions as to their proper cultivation.

Mr. NICHOLAS R. PAGE, of Clacton-on-Sea, asked if Mr. DIVERS had had much experience with superphosphates as an artificial manure.

Mr. DIVERS replied that for twenty years he had used it in the proportion he had stated in his paper with beneficial effects.

Mr. PAGE: Do you find bone-meal any good?

Mr. DIVERS: Bone-meal is not so readily available as superphosphate. I have used bone-meal.

(To be continued.)

NATIONAL CHRYSANTHEMUM.

OCTOBER 6, 7.—The first exhibition of the National Chrysanthemum Society this season was opened in the Crystal Palace on Tuesday last. The exhibits were arranged in the central transept, opposite to the large organ. Owing in some measure to the untoward character of the season, and possibly also to the enforced transference of the exhibition from the old Aquarium, there was much less competition than usual, the competitive classes being but indifferently filled, while the large non-competitive exhibits of Dahlias and Michaelmas Daisies from the trade were quite out of proportion to the Chrysanthemums exhibited. The whole display made a good show, but Chrysanthemums were not the conspicuous feature they should have been, a result that will strengthen the opinion of many members who think the Society should have discontinued the October exhibition. The weather on the opening day was very wet, and there were few visitors. The arrangements were in the experienced hands of the Secretary, Mr. R. Dean.

The Floral Committee assembled at 1 P.M., and recommended one Certificate only to the variety which follows:—

Japanese variety Renée.—The three blooms shown were of large size, very full, the florets wide, reflexed, but incurring a little at the tips, colour very pale lilac with shade of pink. Shown by Mr. T. BULLIMORE, Canon's Park Gardens, Edgware.

There were two exhibits in the class for a group of Chrysanthemums and ornamental foliage plants in pots, the better one being from Messrs. J. PEED & SONS, nurserymen, West Norwood; 2nd, Mr. ROBERT FORSTER, Nunhead Cemetery.

CUT BLOOMS.

The biggest class in the Cut Bloom section was for twenty-four blooms of Japanese, in not fewer than eighteen varieties. There were three exhibits, and the best came from Mr. Jas. Brookes, gr. to W. J. NEUMAN, Esq., Totteridge Park, Totteridge. Most of the varieties staged were well-known sorts, and M. L. Remy, Mrs. R. Darby, J. R. Upton, Mrs. H. Emerton, and Mrs. T. W. Pockett were among those shown in best con-

dition. 2nd, Mr. W. Ring, gr. to J. WARREN, Esq., Capel House, Waltham Cross; and 3rd, Mr. Henry Perkins, gr. to the Hon. W. H. SMITH, Esq., M.P., Greenlands, Henley-on-Thames.

The best exhibit of twelve blooms of Japanese varieties, distinct, came from Mr. G. Boakes, gr. to J. DIXON, Esq., Edenhurst, Sevenoaks, and he had staged the following varieties: Madame R. Ray, General Buller, Miss Elsie Fulton, Mrs. White Popham, Chas. Longley, Mrs. C. H. Payne, Marquis V. Venusta, Elthorne Beauty, Mrs. Greenfield, Madame Gustave Henry, Soleil d'Octobre, and Marjorie. 2nd, Mr. Jas. Brookes, gr. to W. J. NEUMAN, Esq., Totteridge; 3rd, Mr. Mark Rayment, gr. to W. BEECH, Esq., North Ockendon, Romford.

The best six blooms included the following varieties: —Mrs. G. Mileham, General Hutton, Harman Payne, Miss E. Fulton, Lily Mountford, and Madame Gustave Henry. This exhibit was staged by Mr. A. Mackay, gr. to F. H. BODEN SMITH, Esq., Danesbury, Hertford; 2nd, Mr. J. KIRKWOOD.

The best collection of twelve Japanese blooms, shown by an amateur in Section A, was from Mr. Mark Rayment, gr. to W. BEECH, Esq., North Ockendon, Romford. The varieties Madame Gustave Henry and Mrs. Mileham were the best specimens.

A collection of six Japanese blooms, distinct (amateurs), that gained 1st prize for Mr. W. H. CHALK, 224, High Street, Slough, were the varieties Mrs. White Popham, Madame Gustave Henry, Godfrey's Masterpiece, Mons. L. Rémy, Godfrey's Triumph, and Miss A. Byron.

The only exhibit of twelve bunches of early flowering Chrysanthemums was shown by Mr. E. F. SUCH, and was awarded the 1st prize.

The only exhibit of twelve bunches of early flowering Pompons, in not fewer than eight varieties, was from Mr. E. F. SUCH, but not one variety was distinguished by a label.

In a class for six bunches of early-flowering Chrysanthemums, distinct, there were four exhibits, the 1st prize being won by Mr. D. B. CRANE, with the following varieties: Ivy Stark, Harvest Home, Horace Martin, Orange Mme. Massee, Crimson Mme. Marie Massee, and Goacher's Crimson. There was much more crimson colour in the variety last named than in Crimson Mme. Marie Massee. 2nd, Mr. Jas. Brookes, gr. to W. J. NEUMAN, Esq., Totteridge Park, Totteridge.

The 1st prize for twelve bunches of early-flowering Pompons (amateurs) was won by Mr. D. B. CRANE, 4, Woodview Terrace, Archway Road, Highgate; and Mr. A. TAYLOR, 5, Vernon Terrace, East Finchley, was 2nd.

In the class for six bunches, Mr. CRANE was beaten by Mr. ERIC F. SUCH, Nurseryman, Maidenhead.

FLOWERS IN VASES.

The vases containing large blooms were the most important feature of this show. The best exhibit of two vases containing twelve blooms came from Mr. J. Kirkwood, gr. to E. WORMALD, Esq., Grass Park House, Finchley, and the blooms were certainly large in size and of good quality; 2nd, Mr. Jas. Brookes, gr. to W. J. NEUMAN, Esq., Totteridge; 3rd, Mr. G. Boakes, gr. to J. DIXON, Esq., Edenhurst, Sevenoaks.

Mr. KIRKWOOD won 1st prize in a class for a single vase, there being no other exhibit.

The best yellow Japanese variety shown in a vase containing six blooms was Mrs. T. W. POKETT, from Mr. W. Ring, gr. to J. WARREN, Esq., Capel House, Waltham Cross. Mr. H. Perkins, gr. to the Hon. W. F. D. SMITH, M.P., Greenlands, Henley-on-Thames, who showed the variety Hon. Mrs. A. Acland, was 2nd.

The variety Mrs. Barkley won 1st prize in a similar class for any variety not yellow or white. It was exhibited by Mr. J. KIRKWOOD. The variety Mrs. R. Darby, shown fairly well by Mr. PERKINS, was awarded the 2nd prize.

There were three exhibits of one vase of early-flowering Pompons, and the one which gained 1st prize was shown by Mr. ERIC F. SUCH.

Miss C. B. COLE, the Vineyards, Feltham, had 1st prize for three épergnes of Chrysanthemums, the colours used being yellow and bronze. Miss C. B. Cole had also the best basket of Chrysanthemum blooms, having selected for this purpose a bright yellow variety exclusively. The same exhibitor, with a collection of Michaelmas Daisies, won 1st prize for the best basket of garden flowers, and in another class the 1st prize for a basket of autumn foliage and berries.

Mr. D. B. CRANE had 1st prize for one épergne of Chrysanthemum blooms.

Mr. E. F. SUCH had a pretty exhibit of Roses arranged with variously coloured foliage in a basket, which gained 1st prize.

NON-COMPETITIVE EXHIBITS.

Messrs. WM. CUTBUSH & SON, Highgate, London, N. and Barnet, Herts, showed Dahlias and a mixed collection of hardy flowers, including Michaelmas Daisies. The most attractive feature from Messrs. Cutbush was a group of plants in pots of *Lobelia tenuior*. The plants were from 1 foot to 2 feet in height, and were covered abundantly with their rich blue showy flowers, an inch across. Cut flowers of choice varieties of Carnations completed Messrs. Cutbush's exhibit (Gold Medal).

Mr. H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E., exhibited a very attractive exhibit of Michaelmas Daisies, inclusive of about 140 varieties. The specimens were exceedingly fresh and nicely developed, and represented the choicest varieties obtainable (Gold Medal).

Mr. THOS. S. WARE (1902), Ltd., exhibited a great stand of Cactus Dahlias, arranged with much taste. Conspicuous in this was a Bamboo-stand furnished with blooms of Kriemhilda, a variety with rose-coloured outer petals and a white centre (Gold Medal).

Mr. NORMAN DAVIS, Chrysanthemum Nursery, Framfield, Sussex, exhibited a stand of large-flowered Chrysanthemums, in which a dozen blooms of the variety Madame Paolo Radelli were noticeable for their large size. Other sorts included Lady Pearce (a white seedling Japanese), Mrs. A. R. Knight, Mafeking Hero, J. R. Upton, &c. (Crystal Palace Company's Gold Medal).

Some single and double flowers of seedling varieties of tuberous Begonias, shown by T. S. WARE, Ltd., were remarkable. The collection was a very large one, the flowers excellent, and only bore sufficient blemishes to indicate they were obtained from the open field. But owing to the rough weather it was stated most of the blooms had been cleansed by immersion in water.

Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, exhibited a quantity of Cactus, Pompon, and single Dahlias, arranged in correct exhibition fashion (Gold Medal).

Messrs. S. SPOONER & SONS, Hounslow Nurseries, Middlesex, showed a collection of Apples (Gold Medal).

The new variety of Chrysanthemum maximum, known as "King Edward," was shown by Mr. WM. ANGUS, Penicuik Gardens, N.B., who had twenty-four vases of blooms.

Messrs. H. CANNELL & SONS, Swanley, Kent, had a group of Cannas in pots, apparently as large, certainly as showy and attractive as recent exhibits of the kind from Swanley.

Messrs. H. CANNELL & SONS had also about twenty bunches of early-flowering Chrysanthemums, amongst which several newer ones were included, such as Maggie McLeod, bronzy-red, small Japanese blooms; Murillo, a very attractive Japanese flower, tinted pink; Safeguard, a very free-flowering variety, growing about 2 feet high, Japanese, colour rosy lilac; White Quintus, Ryecroft Gold, and Gladys Grey, a yellow Pompon with forked florets (Gold Medal).

Messrs. J. PEED & SONS, Nurserymen, West Norwood, S.E., exhibited very large groups of Begonia Mrs. Leopold de Rothschild and B. Turnford Hall, also a few dishes of Apples (Gold Medal).

HOBBIES, Ltd., Dereham, Norfolk, made a very extensive display of Dahlias, and showed lesser collections of cut Roses and early out-of-door-grown Chrysanthemums. Some arches at the back of the exhibit were festooned with varieties of Michaelmas Daisies (Gold Medal).

Mr. ERIC F. SUCH, Maidenhead, exhibited a few hardy flowers, including early-flowering Chrysanthemums (Silver Medal).

Messrs. HUGH LOW & CO., Bush Hill Park Nursery, Enfield, N., exhibited two Fig-trees bearing ripe fruits, in pots; also a collection of Apples and Pears (Silver Medal).

Mr. W. J. GODFREY, Exmouth Nurseries, Devon, showed Chrysanthemum blooms of several good border varieties, including Harry Gover, Yellow Prince, Britannia, &c., varieties of Carnations in pots, a pretty crimson Fuchsia named "Mary" (Crystal Palace Company's Gold Medal).

Tomato Hanwell Victory is a very heavy cropping variety of the Perfection type, shown by Mr. W. SEWARD, The Firs, Hanwell, W.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

OCTOBER 2.—The members of the Committee present on this occasion were Messrs. Leeman, Cypher, Holmes, Upjohn, Williamson, Cowan, Rogers, Keeling, and Weathers (Hon. Sec.).

There was a moderate display of plants, the best coming from E. ROGERSON, Esq., Oakdene, Didsbury (gr. Mr. Blomeley). The group included many first-rate plants, both in regard to species, varieties, and hybrids. The following plants were selected for award: —Cypripedium Charlesworthii "Oakdene var.," a very richly-coloured and large form, First-class Certificate; Odontoglossum crispum var. xanthoglossum, a fine large flower of good substance, with a chrome-coloured lip and a few pale-yellow spots on the segments, First-class Certificate; Cattleya × "Fernand Dennis," a hybrid between Cattleya Aclandiae × C. gigas also received a First-class Certificate; the parentage of C. Aclandiae was not evident in any way. Cattleya × "Mrs. Pitt" received a First-class Certificate; Laelia-Cattleya × Galatea received an Award of Merit; similar awards going to Cypripedium × Oakdene, Sophro-Laelia × heatonensis, Cypripedium × "Eos," and C. × Mrs. Preston. A Gold Medal was voted to the group.

T. MILLER CROOK, Esq., Stanley Grange, near Preston (gr., Mr. Perks), obtained an Award of Merit for Cypripedium × "Kitty," a cross between C. × T. B. Haywood and C. Swinburnei; the flower is large and bold, and suggestive of a mammoth form of C. × Crossianum. Cattleya Gaskelliana, Stanley Grange var., and Cattleya × Iris came from the same collection (Vote of Thanks).

Mr. W. B. UPJOHN, Worsley, exhibited a splendidly grown plant of *Miltonia vexillaria* (Vote of Thanks).

J. E. WILLIAMSON, Esq., The Grange, Stretford (gr., Mr. Jones), staged a small miscellaneous group (Vote of Thanks).

J. CYPHER & SONS, Cheltenham, exhibited a nice group, containing some bright pieces of *Dendrobium phalaenopsis* var. *Schröderiana*, *Cypripedes*, *Odontoglossums*, &c. (Silver Medal).

Mr. A. J. KEELING, Bingley, Yorks, exhibited Laelia-Cattleya × Germania and Masdevallia × "Bocking hybrid" (Vote of Thanks).

MESSRS. COWAN & CO., Gateacre, received a Silver Medal for a good group of *Odontoglossum grande*.

T. STATER, Esq., Whitefield (gr., Mr. Johnson), exhibited a few good *Cypripedes* (Vote of Thanks). P.W.

LIVERPOOL NATIONAL AMATEUR GARDENERS' ASSOCIATION.

A SUCCESSFUL meeting of members and friends of the Association was held in the Common Hall, Dale Street, Liverpool, on October 1. Mr. R. PINNINGTON was the lecturer, his subject being "Round About the Flower Shows."

In a few introductory remarks the lecturer stated that it was his intention to give a few lessons which might be of benefit to his hearers. He dealt with the new varieties of Sweet Peas, Dahlias, and Roses, and some other matters calculated to interest his audience. Dwelling for some time on the subject of table decorations, he said how delighted he was to observe at many shows an increase in the number of classes for vases of Dahlias and Roses, which afford scope for pleasing arrangements of the flowers. The description of the Shrewsbury visit was much appreciated, the main features being touched upon in a practical manner.

Obituary.

FREDERICK LAW OLMSTED.—The American horticultural journals have recently recorded the death of the famous landscape gardener, Mr. F. L. Olmsted, in Waverley, Mass. Born in 1822, deceased first studied civil engineering and afterwards science at the Yale College. Next he studied agriculture, and worked for seven years as a farmer and agriculturist upon his own land. From 1850 to 1857 he devoted himself to literary work, and travelled in Europe in 1850. In 1853 and 1854, in order to obtain details of the economical condition of the Slave States, deceased travelled more than 4,000 miles on horseback in those States. In 1856, visiting Europe again, he made a special study of the parks, pleasure grounds, public forests, zoological and botanical gardens, and the plans and manner of enlargement of towns and suburbs. In 1857 he was appointed superintendent of the preparatory work of the projected Central Park of New York, and in the following winter, in association with the late Calvert Vaux, he devised a plan for this park which was selected from thirty-three others. The designers were empowered to carry out the work, and for political reasons had to proceed rapidly. At one time they employed nearly 4,000 men. At the outbreak of the Civil War in 1861, Mr. Olmsted was appointed by the President a member of the National Sanitary Commission, and was given the work of organising and managing its executive business.

In 1864 he resided on the Pacific slope and there served as Chairman of the Californian State Commission, taking the custody of the Yosemite and Mariposa reservations, ceded to the State by Congress as public parks. In 1865 he returned to New York, and entered into partnership with Mr. Calvert Vaux and Mr. F. C. Withers as landscape gardeners. In 1873 this partnership was dissolved, and Mr. Olmsted served as president, treasurer, and afterwards as landscape architect to the Park Commission of New York. He moved to Boston in 1878, and in 1884 took his son into partnership. Mr. Olmsted had been

employed upon upwards of eighty public recreation grounds, and had also a very large practice in the laying-out of the grounds of public institutions and private estates. He designed the grounds of the Capitol at Washington, including the marble terrace and other structures exterior to the main building, also in association with Mr. Vaux, of the Saleme, now being carried out by the State of New York for the preservation of the natural scenery of Niagara Falls. Mr. Olmsted was A.M. of Amherst College, and A.M. and LL.D. of the Universities of Harvard and Yale. He was the author of several well-known works, and at one time was an associate-editor of *Putnam's Magazine*. He retired from business in 1895 in feeble health. It was the deceased, states *The Florists' Exchange*, "who may be said to have created the title of landscape architect, now so worthily borne by many younger men, as opposed to the old title of landscape gardener or landscape engineer."

MARKETS.

COVENT GARDEN, October 8.

CUT FLOWERS, &c.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Asters, per dozen	20-40	Lupins, per doz.	30-40
Bouvardias, bunch	0-6-0	Marguerites, yellow, doz. bunch.	10-20
Callas, per dozen	4-0-0	Michaelmas	
Carnations, per bunch	10-20	Daisies, doz.	30-40
Chrysanthemums, doz. bunches	40-100	Montbretias, per dozen bunches	40-60
— specimen blooms, doz.	10-30	Orchids: Cattleya, dozen blooms...	60-120
Coreopsis, dozen bunches	10-20	— Odontoglossums, dozen	
Dahlias, per doz. bunches	30-40	— Pelargoniums, zonal, d. bun.	40-60
Eucharis, per doz.	16-20	Phlox, per dozen bunches	30-40
Ferns, Asparagus, per bunch	10-26	Physalis, per doz. bunches	60-80
— French, per doz. bunches	0-4-0	Poppies, Iceland, p. doz. bunches	0-6-10
— Maidenhair, doz. bunches	40-60	Pyrethrums, doz. bunches	16-20
Gaillardia, per doz.	10-20	Roses, Mermet, per doz.	10-20
Gardenias, box...	10-16	— various, bun.	0-6-16
Gladioli, longiflorum, per bunch	30-40	— red, 12 bunches	40-60
— lancifolium, per bunch	16-20	— white, bunch	0-6-20
Lilium auratum, per bunch	20-30	— pink, bunch	0-4-16
Lily of the Valley, p. doz. bunches	40-80	Scabiosa caucasica, doz. bunches	40-00
Lobelia cardinalis, doz. bunches	30-40	Smilax, per doz. trails	16-26
Mignonette, doz. 20-30		Solidago, dozen bunches	30-40
		Stephanotis, doz. bunches	16-30
		Sun Flower, doz. bunches	16-30
		Tuberose, strong, per bunch	0-9-10
		— per dozen	0-2-0-3
		Violets, doz. bun.	10-16
		— Parma, bunch	10-20

PLANTS IN POTS, &c.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Adiantums, doz.	4-0-80	Ficus elastica, doz.	0-24-0
Aralias, per doz.	4-0-80	Lilium longiflorum, per doz.	60-120
Arbor Vitae, doz.	9-0-180	— lancifolium, per dozen	60-120
Aspidistras, doz.	18-0-360	Lycopodium, p. dozen	30-40
Asters, per doz.	30-40	Marguerites, doz.	60-120
Aucubas, per doz.	4-0-80	Orange-trees, each	3-60-80
Begonia Gloire de Lorraine, doz.	8-0-240	Palms, var., each	30-20-60
Chrysanthemum, per dozen	30-100	Pelargoniums, scarlet, dozen	60-—
Coleuses, per doz.	40-50	Primulas, per doz.	40-—
Crotons, per doz.	120-240	Pteris tremula, dozen	40-80
Cyperus, per doz.	40-—	— Wimssett, per dozen	40-80
Dracenas, variety, dozen	120-480	— major, dozen	40-60
Ericas, per dozen	10-120	Solanums, dozen	40-60
Euonymus, var., per dozen	40-60		
Ferns in var., doz.	40-300		

FRUIT.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Apples, home-grown, cookers, per bushel	40-70	Grapes, Hamburgh, per lb.	0-6-10
— per half bushel	26-36	— Muscats, A., per lb.	30-40
Barrels...	140-250	— B., per lb.	0-8-13
— Dessert, half...	30-40	— Canon Hall, A., per lb.	40-50
Bananas, bunch...	70-120	— B., per lb.	20-30
— loose, dozen...	10-16	Lemons, per case	250-—
Blackberries, per peck	26-—	Melons, each	0-9-20
— per sieve	50-—	Oranges, per case	120-140
Cobnuts, per lb.	0-5-0-5	Peaches, A., doz.	60-160
Cranberries, per case	146-—	Pears, half-bush.	40-60
Figs, per dozen	10-16	— stewing, half	46-50
Filberts, per lb.	0-5-—	Pines, each	30-40
Grapes, Alicante, per lb.	0-6-10	Plums, per sieve	50-60
— Gros Maroc, per lb.	0-8-10	Walnuts, noble, bag	60-80
		— French, per bag	150-160

VEGETABLES.—AVERAGE WHOLESALE PRICES.

s.d.	s.d.	s.d.	s.d.
Artichokes, Globe, per dozen	20-26	Mint, per dozen bunches	10-—
— Jerusalem, p. sieve	16-—	Mushrooms, house, per lb.	10-16
Beans, dwarf, per sieve	16-20	Onions, per case	40-50
— Scarlet Runners, p. bushel	10-20	— per bag	30-46
Beetroots, bushel	16-20	— green, per doz.	20-—
Brussels Sprouts, per sieve	16-20	— picklers, sieve	30-40
Cabbages, tally...	30-40	Parsley, per doz. bunches	10-16
Carrots, doz. bun.	10-20	— sieve	0-9-10
— per bag	20-36	Parsnips, per bag	26-30
Cauliflowers, doz.	0-9-16	Peas, per bushel	10-20
Celery, per dozen bunches	10-16	Potatoes, per ton	70-90
Cress, per dozen punnets	13-—	Radishes, per dozen bunches	0-6-0-9
Cucumbers, doz.	20-36	Salad, small, punnets, per doz.	13-—
Endive, per doz.	10-—	Spinach, pr. sieve	0-9-10
Garlic, per lb.	0-3-—	Tomatoes, Channel Islands, per lb.	0-2-—
Horseradish, foreign, p. bunch	13-16	— English, per 12 lb.	20-30
Leeks, per dozen bunches	10-16	Turnips, per doz. bunches	16-20
Lettuces, Cabbage, per dozen	0-4-0-6	— per bag	26-30
Lettuces, Cos, per score	0-6-10	Vegetable - Marrows, per tally	30-50
		Watercress, per dozen bunches	0-4-0-6

REMARKS.—Californian fruits, Plums, 10s. to 12s. per case; Pears, 7s. to 14s. do.; Quinces, 11s. do.; Jamaica Mangoes, 2s. 6d. to 4s. per dozen; Grapes, 16s. to 18s. per case; Corn Cobs, 1s. per dozen. Apples in barrels are very good, these are Ribston Pippin, Gravenstein, &c. Most of the English Plums now coming are Victoria and Egg. Cucumbers are improved in price.

POTATOS.

Home-grown, 60s. to 90s. per ton. John Bath, 32 & 34, Wellington Street, Covent Garden.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period Sept. 27 to Oct. 3, 1903. Height above sea-level 24 feet.

SEPTEMBER 27 TO OCTOBER 3, 1903.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERATURE OF THE SOIL AT 9 A.M.			
		At 9 A.M.	DAY.	NIGHT.	RAINFALL.	At 1-foot deep.	At 2-feet deep.	At 4-feet deep.	LOWEST TEMPERATURE ON GRASS.
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	ins.	deg.	deg.	deg.
SUN. 27	S.E.	57.2	56.8	68.4	49.3	0.21	59.0	57.4	42.7
MON. 28	S.E.	60.7	59.3	89.2	55.5	0.17	59.0	57.6	47.9
TUES. 29	S.E.	64.5	63.0	87.0	59.8	0.39	60.3	57.6	53.7
WED. 30	S.W.	62.7	59.2	69.2	53.0	...	60.3	57.7	44.8
THU. 1	S.S.W.	58.7	58.2	5.8	47.9	0.08	59.0	59.3	57.7
FRI. 2	S.W.	57.7	54.2	84.4	50.8	0.02	58.8	59.0	57.7
SAT. 3	S.W.	61.4	60.0	66.0	57.6	0.20	59.3	57.7	52.9
MEANS	...	60.5	58.7	69.8	53.4	1.05	59.4	57.6	47.0

Remarks.—The weather has been for the most part cloudy and dull, with a considerable quantity of wind at times. Rain fell on six days.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Oct. 3, is furnished from the Meteorological Office:—

"The weather was very cloudy or dull as a whole, with a close atmosphere and rain almost daily, and occasionally in some quantity. Thunder occurred at Ochertyre on Wednesday, and lightning at some more southern stations later in the week.

"The temperature continued above the mean, the excess ranging from 3° in the Channel Islands to as much as 5° or 6° in almost all other parts of the kingdom. The highest of the maxima were registered between Monday and Thursday, and ranged from 72° in England, E., and 70° in England, S., to 65° in Scotland, W., and to 65° or 64° in Ireland. The lowest of the minima, which were recorded either at the beginning or end of the period, varied from 38° in England, N.E., 40° in Scotland, E., and 41° in Scotland, N., to 48° in England, S., and Ireland, S., 49° in Ireland, N., and to 51° in the Channel Islands.

"The rainfall exceeded the mean in all districts excepting Scotland, N. The excess was not very large generally, but was very considerable in Scotland, W., and at some isolated stations in England and Ireland.

"The bright sunshine was deficient over the kingdom as a whole, but exceeded the normal amount in Ireland, N. The percentages of the possible duration ranged from 38 in the district just mentioned, to 25 in Scotland, N., and to 23 in England, N.W."

THE WEATHER IN WEST HERTS.

Still warm and very wet.—The warm spell which began on September 19 has now lasted eighteen days. During that period there has occurred but one day which has been in any way unseasonably cold, and not a single cold night. On most of the nights the lowest readings were from 8° to 12° higher than the average. The ground has also been unusually warm; indeed it is very seldom in October that the temperature either at 1 or 2 feet deep is as high as it has been on several days during the past week. The last fortnight has been a very wet one. Rain fell on all but two days, and to the aggregate depth of nearly 2 inches, which is equivalent to a watering on each square yard in my garden of over nine gallons. The dryness of the days as compared with the nights was rather remarkable. For instance, eight days during the fortnight in question were perfectly dry, while on the other hand there occurred but three dry nights. Then again during the daytime the total measurement amounted to less than $\frac{1}{2}$ inch against $1\frac{1}{2}$ inch during the night. On each day during the week there has been free percolation through the bare-soil gauge, but two days ago that through the gauge on which short grass is growing for one day entirely ceased. The sun shone on an average during the week for rather more than four hours a day, or for about half an hour a day longer than is usual. Since the beginning of the month the winds have been high, and have come exclusively from some point of the compass between south and west. The amount of humidity in the atmosphere has been, on the whole, about seasonable.

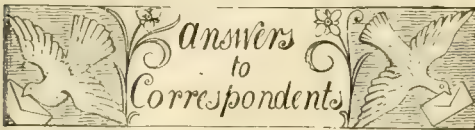
SEPTEMBER.

A month of changeable but, on the whole, seasonable weather. The mean temperature of the month was about average. The first few days, and also the last ten, days proved warm, but during the intervening fortnight the weather remained persistently cold. The only really hot days were the first two of the month, when the temperature in the shade rose to 79 and 81°. During the cold period the exposed thermometer indicated on three nights slight frosts, but on no night was the cold in any way exceptional. Rain fell more frequently than usual, but the total measurement, $2\frac{1}{2}$ ins., is, if anything, rather below the average quantity for the month. In recent years there appear to have been a long series of dry Septembers. In fact, during the last eighteen years there has occurred only one September in which the rainfall has been in excess of the mean. This was rather a sunny month than otherwise, the average duration of bright sunshine being about ten minutes a day longer than usual. Rough winds occurred on several days, but calms and light airs mostly prevailed. Taking the whole month the amount of moisture in the air in the middle of the day was only about 2 percent. in excess of the average, but during the last ten days the air was often extremely damp for the time of year.

The summer rainfall.—With September ends the summer half of the drainage year. In all but two months, the first and last of that period (April and September) the rainfall exceeded the average, and more particularly was this the case in June, July, and August. The total excess for the six months amounted to 5 inches, which is equivalent to a watering of $2\frac{1}{2}$ gallons on each square yard of surface in my garden. E. M., Berkhamsted, October 6, 1903.

ENQUIRY.

KITCHEN GARDEN CROPS UNDER GLASS.—A correspondent, "J. D.," writing from Christchurch, requires information on this subject. He says: "It is my intention to devote 2 acres to the extensive cultivation of vegetables—Lettuce, Cabbage, Radishes, and Celery—under irrigation. I might set out 250,000 plants in all, in succession, in the year. To start them under heat until ready to put in the coolhouse, what would be most economical, pits heated by hot water, or an even span-house? and what amount of space am I likely to need to carry out the above? For the coolhouse would pits by the side of an even span-house be best? The size of houses I am likely to need or the number of frames is what I want an idea of. For such a purpose what piping should I need? Also, can you recommend me a sterilising apparatus?" "J. D." would be greatly obliged if some of our readers would help him with the above information.



APPLES IN IRELAND: *F. G. B.* The soil and climate are very favourable for the cultivation of Apples, and the varieties you mention would succeed there. Much of the country is treeless, and orchards require shelter, which, however, can soon be afforded by planting quick-growing Conifers, Poplars, Willows, common Acacia, Sycamore, Crabs, Damsons, and something as undergrowth. Number of trees per Irish acre, at 24 feet apart, 123; and at 30 feet apart, 79 trees.

BLACK PATCHES ON LAWN: *Isis.* These arise probably from some lichen. The land may stand in need of draining with pipe or rubble drains, wet land favouring the growth of this plant. Let the soil be dug out from the black patches, and made good with stiff loam, on which suitable turf may be laid.

BOOK OF CARPET-BED AND OTHER DESIGNS: *W. F. O.* The sort of book required is published by Messrs. Cannell & Sons, Swanley Junction, Kent.

CARNATIONS, SOUVENIR DE LA MALMAISON: *T. R. P., Poole Harbour.* The roots are infested with Eelworms. No cure. Throw them into the garden furnace. When using pasture loam for Carnations, Cucumbers, Melons, Gardenias, &c., sterilise it by heating it on hot plates, or use no loam which has been less than one year in stack.

CELEBY: *H. C.* The leaves are attacked by the Celery fly. We are afraid there is no other remedy than to burn the plants, and that quickly.

CHERRY-TREE TRAINED AGAINST A WALL AND DEAD: *G. Impell.* We find no fungus or trace of boring caterpillars, and are unable to account for the destruction of the plant. It would seem to point to something deleterious being poured over the roots.

COMMUNICATION CONCERNING ROSES: *Rosa Ignoramus.* If you will send your full name and address we will answer your question in our columns. We always require these particulars before replying to unknown correspondents, not necessarily for publication, but as an earnest of good faith.

CORRECTION: In our report of the Vegetable Exhibition, Chiswick, we stated in error under his portrait that Mr. R. A. Horspool is gardener to Richard Myddleton, Esq., at Chirk Castle, whereas he is the tenant of a garden at that place, in which he cultivates market produce. Mr. J. A. Jones is the head gardener at Chirk Castle.

FIELD AS ALLOTMENT HOLDING: *Hortus.* In the absence of agreement, the land would be held on a yearly tenancy, with a three months' notice to quit, expiring at the date of entry on the same. If there are plants on the land that would be injured by removal at that time, the customary respite of the county must be allowed the tenants.

FLOWER POTS: *E. H. C.* We doubt the impossibility of making the pots as desired (1) because our Colonial correspondent found that the Americans can and do manufacture such pots, and have secured his trade in consequence—not a small item either; (2) because we have ourselves seen within the last few weeks in France a very large number of such pots.

GERMAN GARDENER: Will "R. B.," who was answered in last week's issue, kindly forward his name and address to the Editor, *Gardeners' Chronicle*.

GRAPES: *E. W. R.* The two crushed berries received are insufficient material for examination.

INSECT: *W. R., Kensington.* The grub is that of the Goat Moth, *Cossus ligniperda*. Hook them out with a curved wire. Inject tobacco smoke freely into the holes made by the insect.

LABURNUM: *H. P.* There are many instances this season in which the Laburnum has flowered twice; but usually the racemes are at the ends of long shoots, not on spurs, as in your case puny and weak, showing that the tree has been induced to attempt more than it could do successfully. We have on our table two Pears, 3 inches long, that have been developed from a second crop of flowers.

MARGARET CARNATIONS: *Omega.* The plants being but 6 inches high at this date, they must have been raised from seeds sown in the summer months, and should be afforded only a small shift so as to carry them through the winter. Small 48's will be large enough, or 32's if three plants be put into a pot. Use as potting soil turfy loam three-quarters, leaf-mould one-quarter, and a small quantity of sand and mortar rubble, broken very small. You may stop the growths once after the plants have got established; but being naturally of a bushy habit, not much stopping will be needed. Afford them another shift early in the spring, if you want extra strong plants, otherwise apply at that season some weak manure-water. Keep cool and dryish during the winter, without causing suffering from drought. It is a good practice to sow seeds in a temperature of 58° to 60° in February.

NAMES OF FRUITS: *J. T. H.* Pear Autumn Colmar; Apples, 1, Betty Geeson; 2, Winter Greening; and 3, Yorkshire Beauty.—*T. H. H.* Apple Court Pendu Plat.—*J. M.* Apples, 1, Warner's King; and 2, Bess Pool.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*Cactus.* We cannot undertake to name varieties of *Dahlia*.—*G. H.* *Vanda cœrulea*.—*J. S.* *Picea orientalis*.—*M. B.* We cannot name your *Salvia*; it is not *S. nilotica*.—*C. A. H.* 1, *Sidalcea candida* apparently—very poor specimen; 2, *Aster* (*Chrysocoma*) *linosyris*; 3, *Solidago multiradiata*; 4, *Veronica spicata* probably—no flower left; 5, *Aster acris*; 6, *Sidalcea malvaeflora*.—*Wye, Hereford.* The double form of *Clarkia pulchella*. There is no English name for it that we know of.—*Fred Isle.* 1, *Vanda cœrulea*; 2, *Epidendrum vitellinum*.—*Foster.* 1, *Cœlia Baueriana*; 2, *Epidendrum* × *O'Brienianum*; 3, *Masdevallia triangularis*; 4, *Restrepia antennifera*; 5, *Oncidium excavatum*; 6, *Pinguicula caudata*.—*X. Y. Z.* We cannot name Carnations.—*W. B.* *Spiraea Douglasii*.—*W. D.* *Erica vagans*.—*F. S.* 1, *Sanguisorba officinalis*; 2, *Hieracium aurantiacum*; 3, *Potentilla fruticosa*; 4, *Veronica gentianoides*.—*H. R., Aylesford.* Varieties of *Chrysanthemum coronarium*. The Fern is known as *Phegopteris trichodes*.—*A. B.* 1, *Sedum carneum variegatum*—tender; 2, *Chrysanthemum frutescens*.—*G. Paul.* *Spiraea Fortunei*, alias *S. callosa*.—*G. R. S.* Your plant appears to be a species of *Melia*. We do not think it would be of any use for the purpose you mention.—*J. C. S.* The *Retinospora* stage of *Cupressus funebris*.—*A. T. C.* 1, *Veronica glauco-cœrulea*; 2, *Juniperus sinensis variegata*; 3, *Juniperus variegata* form; 4, *Ononis arvensis*; 5, *Lonicera Ledebourii*; 6, *Euonymus radicans variegata*.—*J. C.* 1, *Fittonia Pearcei*; 2, *Cyrtodeira fulgida*; 3, *Ophiopogon Jaburan variegatum*.—*E. W.* 1, *Nerine Fothergilli*; 2, *Hoffmannia Ghiesbreghtii variegata*; 3, *Maranta Massangeana*.—*J. S. U.* *Polygala chamæbuxus*, purple variety. *W. S. F.* 1, *Asplenium trichomanes incisum*; 2, *Sedum Sieboldii*. Dull weather and too much water have probably caused the decay of the *Pelargonium*.—*X. Y. Z.* 1, *Cratægus mexicana*; 2, *Amelanchier vulgaris*; 3, one of the forms of *Quercus Ilex*; 4, *Robinia pseudacacia*; 5, *Ulmus campestris*; 6, *Quercus pedunculata*.—*R.* *Anthemis tinctoria*.

NOTICE TO QUIT SERVICE: *H. G. G.* You are right in your contention, and can recover the three weeks' wages due to you, unless charges of gross misconduct or dereliction of duty be proved against you.

OAK LEAVES SPOTTED ON THE UNDERSIDES: *H. Cowley.* "Oak Spangles," caused by a mite.

PEAR BEURRÉ HARDY: *W. H. C.* The second flowering of the Pear is not uncommon, but it

is rarely that half a crop is thus formed. The fruits sent were about half size, therefore not likely to attain full size so late in the season.

PEAT-MOSS FROM THE STABLES: *D. E.* Excellent manure for garden or farm crops if the precaution be taken to ferment it in large heaps, which are turned and mixed once a week, till the rank ammoniacal fumes have passed off and decay set in generally.

PROPAGATION: *Olaf Hardanger.* Clematis Jackmani is increased generally by early winter grafting on stocks of *C. vitalba* (Traveller's Joy) at or just below the ground-level, and employing the cleft method, and using grafting-wax to exclude moisture. Common white Lilac is increased by means of rooted suckers, cuttings, budding, and grafting. Lavender may be grown from cuttings of mature wood taken in October, and inserted in very sandy loam under hand-lights out-of-doors in a warm situation. They will be well rooted by the following month of May and may then be lifted, each with a ball of soil, and planted in nurse-beds, where they may remain for a year.

SCIADOPITIS: *Haywards Heath.* The presence of lichen on your tree is an indication of a moist atmosphere. So long as the lichen is confined to the old bark it is not likely to do any material harm; but if, which is hardly likely, it invades the young shoots and foliage, then it will become harmful, and should be carefully removed. The soil, if water-logged, should not be allowed to remain so.

SITUATION IN A GOOD SEED WAREHOUSE: *A. B.* Scan our advertisement columns, or insert an advertisement.

TOMATO: *Miss M. E. F.* We cannot name the variety, except that it is an excellent form of the "Perfection" type, with almost round, perfectly smooth fruits. It is very likely, as your gardener informed you, the variety has never been catalogued. In selecting seed for propagation use only the best-formed fruits, of medium size; and if you want a change of seed, send some to a friend a distance away, and in a season or two exchange again.

TWENTY VARIETIES OF DESSERT PEARS: *New Reader.* In your county, the soil being generally of a heavy nature, Pears on walls should be budded on the Quince, or as many of them as succeed on that stock, and as the double cordon is to be employed, the trees can be kept easily to that form by occasional lifting and replanting, and carrying out a moderate amount of summer pinching of the shoots. We append a select list of varieties, most of which have been long in cultivation in this country, and are likely to succeed on a wall facing east. Single cordons cost from 1s. to 1s. 6d. each if one year old; if of fruiting size, 2s. 6d. to 3s. 6d. Ripening in August: *Beurré Gifford and *Jargonelle; September: *Beurré d'Amanlis, *William's Bonne Chrétien and Fertility; October: *Louise Bonne of Jersey, *Michaelmas Nelis, Seckel, *Beurré Bosc, B. Diel, *B. Fouquet-ray, *B. Superfin, and B. Hardy. The season of some of the October Pears extends into November; November: *Beurré de Jonghe, *B. Alexandre Lucas, *B. d'Anjou, *Doyenné du Comice, Directeur Hardy; December and January, and later: *Doyenné d'Alençon, Duchesse d'Angoulême, *Nouvelle Fulvie, *Easter Beurré. Those marked with an asterisk are of the finest flavour.

VINE-ROOTS DISEASED: *T. R. P., Poole Harbour.* These are suffering from the same cause as the Carnations, and whether it is possible to get rid of the eelworms or not will depend upon the extent of the infection. If the Vines are young and the root area is small, taking them up, removing the worst infested parts, and planting in entirely eelworm-free soil, the Vines might recover; otherwise matters will go from bad to worse.

COMMUNICATIONS RECEIVED—Mark Webster.—Miss Dyer—J. A. R.—O. T.—B. S. W.—H. T. R.—W. C. B.—A. E. S.—J. S. C.—E. H. C.—A. R.—G. W.—W. H.—T. H.—T. B.—R. D.—A. G.—J. F.—J. B.—M. E. F.—S. J.—Salisbury—F. W.—Dr. Bonavia—Pritchard & Son—G. H.—E. W. D.—T. H. H.—J. M.—H. R.—S. C.—W. D.—A. D.—C. S. F.—W. P. R.—J. K.—A. H.—R. B.—E. C.—B. H.—J. C.—P. W. V.



NICOTIANA SANDERLING: FLOWERS ROSE COLOURED.

THE

Gardeners' Chronicle

No. 877.—SATURDAY, OCT. 17, 1903.

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HISTORIC CEDARS.

OUR illustration (fig. 112) represents, though, it must be admitted, imperfectly, one of the historic trees of Europe. Legends have grown up around it—legends which doubtless have a nucleus of truth surrounded by a thick crust of fanciful perversions.

It is stated that Bernard de Jussieu brought a seedling plant from the Holy Land. On the journey disaster befell the vessel. The quantity of water allowed to the crew and passengers was strictly limited. De Jussieu shared what little he got with his cherished Cedar. Arrived at Marseilles, further trouble arose with the Custom-House officials, but at length the Cedar was safely deposited in the Jardin des Plantes. This story was put forth in *Sharp's London Magazine*, according to an extract from that publication published in our columns on November 18, 1847, p. 751. In this, however, the name of Bernard de Jussieu is not given, but in a style that would now be considered "gushing," the removal of the tree in order to make a railway is announced.

A variant from the story just given is quoted in the *Conifer Conference Report*, p. 410, wherein the credit of the introduction under these adverse circumstances is assigned to the elder De Candolle! The narrative of De Jussieu's alleged adventures was, according to Asa Gray, repeated in the *Edinburgh Review* for October, 1864, with the additional statement, also given in the *London Magazine*, that the tree was cut down in 1837 in the course of making a railway, and "the hissing steam-engine passes over the place where it stood."

Another story is that a seedling plant was brought in his hat from England in 1734 by Bernard de Jussieu.

These are the stories—the concrete fact, the tree, remains; and there is no railway near it!

Asa Gray demolished some of the figments attaching to the tree in a letter in our columns on April 29, 1882, where he says:—"I suppose it is well known that Bernard de Jussieu never went to the Holy Land, and that most readers of the *Gardeners' Chronicle* would know that no railway has as yet invaded the Jardin des Plantes, or that in such a case it would be likely to cross the steep knoll upon which still stands the Cedar of Lebanon which as a seedling De Jussieu is said to

girth. In 1812 it measured 5 feet 11 inches in girth at 6 inches (*sic*) above the ground. In 1864 the girth at 3 feet from the ground was 10 feet 8 inches. In 1867 the measurements are given as 11 feet 3 inches in girth at 5 feet above the soil. In 1882, at 6 feet above the soil, the girth was 13 feet 2 inches, and the height 52 feet 9 inches. It is not unlikely that the last measurement was made by M. Henry de Vilmorin himself. The dimensions above given do not coincide with those mentioned by Loudon, and must be taken with due reserve. Carrière, *Traité des Conifères*, ed. ii., 1867, p. 378, gives 1736 as the date at which the Paris tree was



FIG. 112.—THE HISTORIC CEDAR IN JARDIN DES PLANTES.

have brought over from England in the crown of his hat, said hat the while probably covering the honoured head of the founder of the Natural System." Asa Gray goes on to say that the story of the voyage from the Levant to Marseilles seems to be an adaptation of one about three Coffee-plants which Antoine de Jussieu is said to have despatched from the Jardin des Plantes in 1720 to Martinique, in a vessel commanded by Captain Declieux, one of which was kept alive by the devotion of the Captain under circumstances similar to those of that part of the preceding story.

According to some data furnished to the late Andrew Murray by the lamented Henry de Vilmorin, and published in the *Pinetum Britannicum*, the Paris tree measured in 1786, at 5 feet above the ground, 4 feet 9 inches in

planted, and further says that in 1854, at 1 m. 50 from the soil (4 feet 10 inches) it measured 3 m. 40 in circumference (11 feet 4 inches). Carrière, as an official of the Jardin des Plantes and an expert in the matter of Conifers is, of course, a highly competent witness.

In any case the Paris tree is by no means equal in size or beauty to many that have been recorded and figured in these pages.

Before we pass from the alleged connection of the Cedar with De Jussieu we may mention that, in the *Gardeners' Chronicle* for May 20, 1882, M. Correvon alludes to two fine specimens existing at Beaulieu, near Geneva, which were also stated to have been planted by De Jussieu himself in 1735. "Bernard de Jussieu," we are here told, brought seed (not

seedlings) from England in 1735, and from this were derived the Cedar in the garden at Paris, the two at Beaulieu (Geneva), and another at Montigny (Seine-et-Oise), France (see also *Carrière*, l.c.). It is further stated that the Cedars at Geneva produce seed so freely that were it not for the scythe of the mower the tree would form forests on the shores of Lake Leman. We ourselves noticed some years ago the profusion of seedling plants coming up at Bayfordbury, Herts, in the flower-beds and even in the gravel paths near the fine Cedars in that garden; and Miller, in the *Gardeners' Dictionary*, mentions a similar circumstance. While speaking of these early-planted Cedars we may recall the fact that four Cedars were planted in the Chelsea Garden in 1683, when about 2 feet high. In 1766 Miller says they (or one of them) had a girth of 12 feet and upwards at 2 feet from the ground (Miller's *Gardeners' Dictionary*, 8th edition, under "*Larix*."). Two of these were living within our recollection, then one succumbed, and now only the skeleton of one is still standing. The late Thomas Moore, who was for many years curator of the garden, had a wardrobe made of the wood of the tree that was taken down in his time.

The Enfield Cedar, planted by Dr. Uvedale, is still in existence, and is claimed to be the first introduced into England. A photograph of it, kindly furnished by Mr. Amos Perry, was given in the *Gardeners' Chronicle*, July 19, 1902.

Professor Boulger gives some interesting details relating to the Enfield tree in the *Journal of Botany*, 1891, vol. xxix., pp. 14, 15; but he has not been able to verify the statement that the Enfield tree dates from 1670, thirteen years before the Chelsea trees are known to have been planted.

ORCHID NOTES AND GLEANINGS.

CATTLEYA TRIANAII VARIETIES.

At the present time there are flowering for the first time in Captain Stringer's Orchid house, Park Hill, Kenilworth (gr., Mr. Holland), on newly imported plants, two very fine varieties of *Cattleya Trianaei*, long in advance of their season, so dissimilar in form and colour as to cause doubt as to their being of the same species. *C. Trianaei* is the most variable of the *C. labiata* section, and flowers of the same character have appeared before. The larger of the two is of the *C. T. Eboracensis* type, a finely formed flower having rosy-lilac sepals and petals and broad labellum, which is of a rosy-crimson colour in the front, and furnished with a chrome-yellow disc. The other and smaller flower is near one known as *C. T. Normani*—sepals and petals purplish-rose; lip of a claret-purple tint with some yellow on the disc. *C. Trianaei* is one of the best of *Cattleyas* where the flowers can be properly expanded. In towns the fogs often destroy them or cause them to develop imperfectly.

CATTLEYA AMETHYSTOGLOSSA.

A photograph sent by Messrs. Hooley Bros., Bitterne Park, Southampton, represents a finely flowered plant of this pretty Brazilian species, which flowered out of their recent importation. The plant has two spikes of twenty-four and eighteen flowers respectively, each spike being a bouquet in itself. Like *Cattleya Leopoldi*, it has been placed by some authorities under *C. guttata*, bearing the varietal name *Prinzii*; but there are as good botanical features to render both *C. amethystoglossa* and *C. Leopoldi* worthy

of specific rank, as there are in the case of most other species of that section of *Cattleyas*. It was first introduced from Bahia about 1850, but has seldom been plentiful in gardens. Its large pale rose-pink flowers often suffused with yellowish-white, and spotted with amethyst, and the lip richly coloured with purple, makes it a showy plant.

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHIDÉES.

The issue for August, lately received, gives good coloured illustrations of thirteen subjects, most of which are well known in gardens. They comprise:—

ABRIDES ODORATUM.—The pretty white and rose-coloured fragrant species, on which the genus was founded and which was introduced to the Royal Gardens, Kew, from China, in 1800. Since that time importations have been made from various parts of India, and for many years the plant formed one of our leading exhibition Orchids. A plant is reported to have been flowered by the father of Capt. G. L. Holford, of Westonbirt, which bore more than thirty flower-spikes; and another by Mrs. Lawrence, Sir Trevor Lawrence's mother, with a like number.

ABRIDES SUAVISSIMUM.—A more slender species, allied to *A. odoratum*, found in Malacca, Penang, and other places. It requires more heat than *A. odoratum*.

ANGREÆCUM CHAILLIANUM.—Flowers white in racemes, with long, greenish spurs. Native of West Africa.

CATTLEYA WARNERI, VAR. ALBA.—The fine white summer-flowering *C. labiata*, which was so much admired when shown by M. A. A. Peeters, of Brussels, at the Holland House Show this year. First flowered by C. G. Roebling, Esq., Trenton, New Jersey, U.S.A. (gr., Mr. Clinkaberry), in 1898.

CYPRIPEDIUM SUPERBIENS (VEITCHIANUM).—The fine species first imported in 1855, and later collected for Messrs. Veitch by Thomas Lobb on Mount Ophir.

DENDROBIUM FARMERI.—Discovered in 1847 and sent to Mr. Farmer, of Nonsuch Park, Cheam, who has a good collection of Orchids of the *D. densiflorum* section. Flowers white tinged with rose; lip yellow. Native of the Himalaya, &c.

EPIDENDRUM PENTOTIS.—Allied to *E. fragrans*. Sepals and petals cream-white, lip white striped with purple. Habitat, Minas Geraes.

IONOPSIS PANICULATA.—A slender South American species, always considered by cultivators as being difficult to grow. Flower-spikes branched; flowers bluish-white, with slight rose marking on the lip.

LELIA × CINNABROSA (CINNABARINA × TENEBROSA).—Segments narrow; sepals and petals yellow tinged with brown; lip whitish veined with purple.

LELIO-CATTLEYA × BLETCHLEYENSIS (L. TENEBROSA × C. WARSCWICZII).—Originally raised by Mr. Hislop, gr. to H. S. Leon, Esq., Bletchley Park. Sepals and petals yellowish-bronze tinged with purple; lip rose-purple.

ODONTOGLOSSUM CRISPUM MADAME VALCKE.—Flower of fine form; segments fringed; white with large brownish-red blotches. Flowered by M. A. A. Peeters, Brussels.

ODONTOGLOSSUM CRISPUM STANLEY.—From an importation by Messrs. Stanley, Ashton & Co., Southgate. Figured from the collection of M. A. A. Peeters. Flowers white, densely blotched with chestnut-red; petals fringed.

SELENIPEDIUM × SEDENI CANDIDULUM (SCHLIMM ALBUM × LONGIFOLIUM).—One of the earliest of the Veitchian set of hybrid *Selenipediums*, now no longer favourites in gardens, notwithstanding their beauty and easy-growing qualities.

EXHIBITING VEGETABLES.

Those who have had opportunities of observing numerous exhibits of vegetables in competitions will admit that the competitors do not always display their produce to the greatest advantage. The commonest fault with exhibitors is crowding the space allotted to them. The answer some of them make is that the authorities do not afford sufficient table space to enable an exhibitor to arrange his productions in a satisfactory manner. The best reply I can make to such an objector is: Inspect carefully the methods adopted by the leading exhibitors at Shrewsbury and other big shows. Hardly ever do we see their exhibits crowded into a space too small to hold them. Granted that a 3-foot-wide table does not afford much space when that is all that is given, exhibitors of experience then adopt a system of elevating the vegetables, and thus add as it were to the area of the table. As all have

not an opportunity of observing staging in the most approved fashion, a few hints and remarks on this subject may be of much service to intending exhibitors.

What is meant by elevating some of the vegetables is to have a few small stages or shelves arranged at the back of the exhibition tables. For instance, a thin piece of deal is made into a shelf 8 inches wide and as much in height, and on this are arranged the Cauliflowers, the stem portion going under a similar shelf at the back, the heads simply being exposed at the front. In a like manner Cabbages are arranged in the centre of the group. This system of elevating the central dishes admits of bold groups of such subjects as Leeks, Celery and Cardoons on each side. In no way do Celery or Leeks show to such advantage as they do when standing almost upright with just an inclination towards the back of the staging. In such a position, not only good points can be readily observed, but also the bad ones.

In the case of Onions, some varieties of which are grown to a huge size (3 lb. a bulb), instead of half burying them on the table in moss or Parsley, or arranging them on one of the elevated shelves previously alluded to, exposing one portion only to view—the root end, for example—it is thought to be a better plan (where all sides are of equal importance none can be hidden with advantage) to have for each bulb a crinoline-like wire support resting on the table, thus showing the base, depth, breadth, and top of each bulb.

I need hardly say these supports may be easily hidden from view with Parsley, which at the same time provides a pleasing foundation and contrast. Instead of arranging half the bulbs, Cauliflowers or Potatoes on each side of a central dish, as is so frequently observed in collections, it is better to mass all of one kind of vegetable together, not only for effect, but for convenience in judging. Carrots should be arranged in a pile, so to speak, with the points directed towards the front of the table, and with a gentle slope. Potatoes should be spread singly on the table, not in long lines along the front, but in a square or mass together. The heaping system spoils their appearance, one hiding the outline of the other. If all will not bear exposure, they have no business to be there. A similar remark applies to Tomatoes. Placed in a square, stalk downwards, on a white case of either wood-wool or paper, a better effect is obtained than when Parsley is used. In selecting these, uniformity of size, even of colouring, and that deep red, and the smallest "eye" possible, are the salient points. I need hardly say that each should be thoroughly ripened to the stalk, and free from discoloration. Let no exhibitor be deluded into thinking that the judges do not scrutinise that portion as well as the surface. Peas require careful handling to obtain the best effect, and to obtain the "bloom," which is a point to be observed. Each pod should be so arranged that its full size is visible to the spectator. Varieties differ in their requirements in this respect, though as a general rule they should be arranged in half-moon fashion, each one being fully displayed, all the stalks pointing in one direction. Runner Beans are more easily dealt with, and are seen best when exposed singly to view, laying them all in one direction, selecting them as evenly as possible in length, breadth, age, and colour.

I might continue with examples some time yet, but fear I have already taken up too much space. A brief summary would be: First select all the items of each vegetable as perfect as possible in its own way, then arrange them as prominently as possible, avoiding all overcrowding, but leaving no space unoccupied. Every dish should be correctly and plainly named, not only for effect, but also for educational purposes.

One point I would strongly impress upon the beginner in staging vegetables, viz., the importance of having a previously thought-out plan, knowing how much space each dish is to occupy; and at the show to carry out the plan to the letter, any slight advantage to be gained by an alteration being easily secured afterwards. This system avoids the necessity of having several sorts of vegetables in hand at once, which are not improved by frequent handling and exposure to the air. The moment the back dishes are placed in position, cover each over with a sheet, or two of thin clean paper, first sprinkling the vegetables with clean water to freshen the skin of Carrots or Onions—this also causes the paper to adhere more closely and prevents it being blown off. When the whole is arranged, place the names in position at the base in front of each dish, remove the whole of the paper from the exhibit when the moment arrives for clearing the tent, and above all never be late in staging, remembering that a tardy exhibitor adds difficulty to the judges in completing their awards at the proper time. Many mistakes in adjudicating have been caused by want of time, which was stolen, as it were, from the judges by negligent exhibitors. *E. Molyneux.*

KEW BRIDGE MARKET EXTENSIONS.

THE Brentford District Council has adopted a scheme for the extension of the Kew Bridge Fruit and Vegetable Market which it considers will facilitate its uses. Opened ten years ago by the then Lord Mayor of London, Alderman Sir Stuart Knill, it has for many years yielded a profit of 2d. in the £ to the rates of the Brentford Urban District, and to keep pace with the requirements of the stall-holders and buyers it has received many additions, but there are still applications for shops and stands that cannot be satisfied because, though the Markets Committee has bought surrounding land as opportunities presented themselves, it has not been developed or laid-out. The scheme proposes the utilisation of this space and combining it with the existing market.

A portion of the land, 165 feet by 350 feet, is to be covered in in three long spans, to be divided into three avenues respectively, A, B, and C, and intersected by a central nave. The height of the roof will be 36 feet, and the total ground-space brought under cover will exceed 1 acre and 1 rood. On either side of the avenues there are to be forty-two ordinary stands, and a like number of waggon-stands. Against the flank sides of avenues A and C there will be lock-up shops to the number of thirty-three, each having 15 feet frontage and 13 feet depth, and provided with selling stand places in front 15 feet by 10 feet. There will be cellars, and an office over each. Avenue B will be reserved for waggon-stands. The present frontage to Chiswick High Road is to remain, and the gates are to be used as means of egress and ingress, but the new portion is to be set back 90 feet, and there will be fourteen shop spaces in the frontage, ranging on either side of a 30-foot roadway, which is to give access to the covered avenues. The Potato-warehouse, as existing, is to be untouched, but it is to have an extra storey attached and shops let into the ground-floor. A refreshment and dining-room are to be provided, stabling is to be constructed for seventy-five horses, there will be five auction spaces each 60 feet by 56 feet, and the superintendent's and collector's offices are to be extended. In all fifty-two extra shops, forty-two stands, and forty-two waggon-stands will be added. All these improvements will take place without interfering in any way with the use of the present market. In addition there will still remain 2½ acres of land in hand for future extensions and for the construction of a railway-siding, as to which negotiations with the North and South-Western Junction Railway are almost completed.

THE CANTERBURY BELL.

(SEE FIG. 113.)

THERE are few more desirable plants in the herbaceous border than the Canterbury Bell (*Campanula Medium*), and few that are better suited for pot-culture and greenhouse decoration. The plant is naturally a biennial. If the seeds are sown in spring (under glass) or autumn, and the seedlings protected during the winter, they will make a fine show the following year. The variety most in favour

SEED TRADE.

THE FOREIGN GRASS AND CLOVER SEED CROPS.

At this period of the year reports come to hand as to the actual yield in the case of some subjects and the probable yield of others of such natural Grasses as supply a large and important industry. It is gratifying to be able to record, as a set-off against the indifferent crops in this country, that



FIG. 113.—A CANTERBURY BELL WITH A COLOURED CALYX.

just now is that called by us *Calycanthemum*, from the fact that the calyx is distended into a petaloid cup outside the true corolla, on which account the plant is also sometimes spoken of as the Cup-and-saucer *Campanula*. Sticklers for grammatical propriety may be puzzled to know why "*Medium*" is spelt with a capital, and why it is not made to agree in gender with the generic name. These things are very puzzling to the uninformed, but the botanist knows that there was once a separate genus called *Medium*, traces of which are found in the present specific name. By what grammarians call "*apposition*," we can use neuter names in combination with feminine appellations.

the harvest of Grass seeds is distinctly better than that of last year.

Of the Bent Grasses, the Creeping Bent or Fiorin (*Agrostis stolonifera*) and the Fine Bent Grass (*A. vulgaris*) have yielded distinctly good crops in the United States, though the German crops are not so good—the drought in the latter country caused indifferent yields. "*Fiorin*" appears to be a term of Irish origin, and it is a Grass which is better adapted for the climate of Ireland than for this part of the United Kingdom.

The Waved Hair Grass (*Aira flexuosa*) has been harvested plentifully in Germany, but

qualities of sample are varied; the great bulk of the seed became discoloured during heavy and continuous rains, and there is a great deal of chaff among some of the samples, which adds to the expense of cleaning, but there is likely to be a fall rather than a rise in prices. This Grass grows naturally on heathy soils, and it is recommended for sowing on such, but as its chief produce consists of culms or stems, with very little foliage and few joints, and, further, as cattle do not seem to relish the stems, it is a Grass but little grown in this country, and scarcely deserving of culture, except perhaps in small quantities in a mixture for sowing on moor-sides. The Tufty Hair Grass (*Aira cespitosa*) is an average crop, and prices will rule about as last year. This is a common species in moist meadows and woods, and on hillside pastures where the ground is wet and spongy.

Less of Meadow Foxtail Grass (*Alopecurus pratensis*) has been harvested this season in Germany, but the quality is generally better than for some years past. In some districts rainstorms affected the quality of the seeds, and prices are advancing. Meadow Foxtail is one of the best and earliest of pasture grasses, but it is not so well adapted for hay as it produces but few stalks, and they but sparingly furnished with leaves.

Sweet Vernal Grass (*Anthoxanthum odoratum*) has yielded a better crop than that of last year, the quality of the seed is good, and prices are expected to rule lower than those of last season. The Sweet Vernal Grass is esteemed as giving out a pleasant smell during the process of drying, it yet supplies but a scanty portion of herbage, and it is this scantiness which militates so much against its value as an economical grass; it yields little to the scythe, while in permanent pastures it occupies the place of other grasses more nutritious and better liked by cattle generally.

Tall Oat Grass (*Avena elatior*) It is a little difficult at present to form a definite opinion as to the extent of the crop of seed; very little has been saved in Germany, while the most productive districts in France report a good average crop, better than in late years. It was anticipated that prices would fall, but it is found farmers are unwilling to sell at those of last year, and are asking for higher terms. It is anticipated that the farmers will moderate their demands. The Yellow Oat Grass (*Avena flavescens*) shows a yield equal to that of last year, both in quantity and quality, and prices will rule about the same.

There is a short crop of *Bromus inermis*, but the quality is good. The Meadow Brome Grass (*B. pratensis*) is deficient in quantity, and prices are expected to be as high as those of last season. It is a grass which varies much in the height to which it grows, according to the situation in which it is found. Crested Dogstail Grass (*Cynosurus cristatus*) promised well early in the season, but owing to the tempestuous weather which prevailed as the harvest time approached, expectations were doomed to disappointment; and with the exception of some stocks received before the bad weather set in, the seeds are discoloured, but yet plump and vital; the best samples are certain to secure high prices.

The crop of New Zealand Cocksfoot Grass (*Dactylis glomerata*) is reported to be a plentiful one, but only the earlier harvested crops show a good colour; later ones are inferior in quality and light in weight, and this is true of the majority of the bulks. The United States report a crop much below the average, and prices there are naturally higher. There is a heavy demand for New Zealand seed from all parts of Europe, and large purchases are being made by the United States, it is, therefore, not surprising prices are steadily advancing. It is anticipated there will be a steady clearing of bright and heavy samples at high prices. It is not to be wondered at; this is a popular grass, it is valuable in cultivation

on account of the great quantity of produce it yields, and the rapidity with which its leaves grow after being cut. Sheep are remarkably fond of it, and should be put out to graze from it early in spring, before the fibre becomes coarse.

Tall Fescue Grass (*Festuca elatior*) has produced only about one-third of last year's crop, and there is much difference in the quality of the seed. It is advised that orders be placed early. The high prices asked by some farmers will doubtless be reduced. It is a rather coarse grass, it yields an abundant crop, and, despite its coarseness, it is relished by cattle generally. Hard Fescue (*F. duriuscula*) and Sheep Fescue (*F. ovina*) have both produced excellent crops of good quality, and prices will be lower than those of last year. What is known as *F. ovina tenuifolia* (fine or narrow-leaved Fescue) is also a good crop. *F. ovina* is found to vary; some London seed houses prefer a small-leaved form, but one with larger seeds is also obtainable. The various-leaved Fescue is *F. heterophylla*; this has yielded but a very small crop; but the Red Fescue (*F. rubra*) has been harvested abundantly, and prices are moderate. The crop of Hard Fescue *F. pratensis* is reported to be slightly inferior to that of last year; the markets opened with moderate prices, but as the supply is very small they are advancing.

The reed-like Canary grass (*Phalaris arundinacea*) has ripened a much smaller crop than last year, and it is anticipated prices will rule high. Coarse as this grass is, and therefore generally refused by cattle when in the green state, it yet contains much nutritious matter, and cattle will eat it when cut up and mixed with chaff. It is a grass which yields a vast bulk of hay, and is found very convenient for littering purposes.

Most of the new seed of the Wood Meadow Grass (*Poa nemoralis*) is large in quantity and fine in quality; the price will this year rule much lower than in 1902. This grass, which is naturally found in shady woods, is therefore well adapted for growing under trees, but it will also thrive on exposed situations and even on inferior light soils. There is no grass better adapted for pleasure grounds, particularly under trees, as it will not only grow in such places, but form a good sward where few of the other fine grasses can exist. From the closeness of its habit of growth it is found to displace annual and biennial weeds, and also those of more permanent duration, provided it be allowed to run to seed. Smooth-stalked Meadow Grass (*P. pratensis*) is better than last year, but as very little stock indeed was carried over from last season, prices will remain about the same as in 1902. Rough-stalked Meadow grass (*P. trivialis*) has been harvested in very small quantities, and advanced prices are sure to rule. Timothy-grass (*Phleum pratensis*) promises a good crop, and prices are already declining. According to past experiments, Timothy-grass possesses the advantage of affording double the quantity of nutriment when its seeds are ripe than it does if cut when in flower; hence it presents an increased stimulus to its cultivation from its seeds being procured without its being lessened in value as a hay crop.

In regard to Clovers, the Crimson has proved a plentiful crop, and the same can be said of Trefoil and White Clover, though prices of the latter, which appeared to decline for a short time, now show an upward tendency. The crop of Lucerne is by no means a favourable one; continuous rain prevented the formation of many seed-pods, the flowers having prematurely dropped. Of common Red Clover Italy reports a comparatively small crop; France and Austria have an average one. Sainfoin has also yielded an average crop; qualities vary, and prices are slowly advancing. *Pisum*.

THE ROSARY.

THE ROSE GARDEN IN OCTOBER.

By the beginning of October, as a general rule, most Roses have ceased to make growth; but there are some varieties whose flowers still gladden our gaze. Conspicuous among these are the hybrid Teas and certain effective and fragrant hybrid Perpetuals, which may be regarded as closely allied to these. Among the latter is that notable new variety entitled Frau Karl Druschki, from which what we usually term perpetuity might have been expected, seeing that it is derived from such fine Roses as Caroline Testout and Merveille de Lyon. But I am free to confess that in this direction it has surpassed my highest anticipations. In my own garden it is as floriferous in October as it was in July; and, what is more marvellous, the flowers, which have a texture resembling that of white satin, are quite as large. Nor is this beautiful Rose easily injured by rain; in this respect offering a great contrast to that parent from which it has chiefly derived its complexion—viz., Merveille de Lyon, whose colour, after a heavy shower, turns to an objectionable roseate hue, thus indicating its relationship to Baroness Rothschild, the scentless originator of a numerous offspring. For all these reasons Frau Karl Druschki may be regarded as one of the finest of recent acquisitions. It is in all probability the largest and purest white Rose in existence. The nearest approximations to this so-called "Hybrid Perpetual"—one of whose parents, as I have indicated, was a Hybrid Tea—are Margaret Dickson, Clio, and Gloire Lyonnaise. Clio has not achieved much this autumn, having manifestly exhausted its floral resources during the summer months; it is nevertheless one of the finest Roses that have come to us from Messrs. Pauls' nurseries at Waltham Cross. Its resemblance to Margaret Dickson is often very striking, a fact that has not escaped the notice of its raisers; but the latter is the more perpetual of the two, and therefore at this special season the more valuable.

Almost as much may be affirmed of the merits and capabilities of Gloire Lyonnaise as an autumnal bloomer, but it has no claim to be regarded as a yellow Hybrid Perpetual. A Rose that approaches much nearer to this description, though even its colour is palest primrose, is Kaiserin Augusta Victoria, which during this late autumn is flowering splendidly, notwithstanding the unfavourable nature of the weather. When placed in a bouquet among crimson Roses, this German variety has a fine artistic effect. I have it before me in this exquisite floral association as I write, and nothing could come nearer to absolute perfection. Another lovely companion in this group of autumnal beauties is the fragrant Caroline Testout, half-blown. This Rose is finer than La France in October; it is more inevitable (if I may be permitted to use such an expression) in its perfect floral evolution; it retains its colour better, is of larger size, and opens more readily. I have not yet seen Alice Lindsell or Mildred Grant, though I hope to add them to my collection towards the end of this month; but I am assured by rosarians whose opinions may be trusted that the latter is an invaluable variety from every point of view. If it have the fragrance and floriferousness of Viscountess Folkestone, with more compactness in the central petals, it will be precious indeed.

Among autumnal Roses few are more richly effusive than Papa Gontier, Clara Watson, and Madame Pernet Ducher, which flower almost without intermission till winter has come. Of hybrid perpetuals the most valuable is Captain Hayward, which, if it has not the admirable fulness, has more of the perpetual character than Horace Vernet, or even the luminous A. K. Williams. Such crimson Roses as Duke of Edin-

burgh, Charles Lefebvre, and Duke of Wellington, whose summer bloom comes usually somewhat late and is greatly prolonged, do not at this season accomplish much, though Cheshunt Scarlet and Marquis of Salisbury, which are only semi-double, may be regarded as exceptions to the rule.

Our gardens in October must always be attractive so long as they possess such beauties as these. *David R. Williamson.*

NEW PARISIAN VEGETABLES AND FRUIT.

(Concluded from p. 258.)

TURNIP WHITE ROUND EPERNAY.—The illustration (fig. 114) shows this variety to have globular, regularly-shaped roots. The flesh is described as white, firm and sweet. The roots mature early and keep for a long period.

SQUASH MIREPOIX MUSK (fig. 115).

This variety of Squash has very handsome fruits, oval or slightly Pear-shaped, dark-red, striped yellow, and dotted with light-green

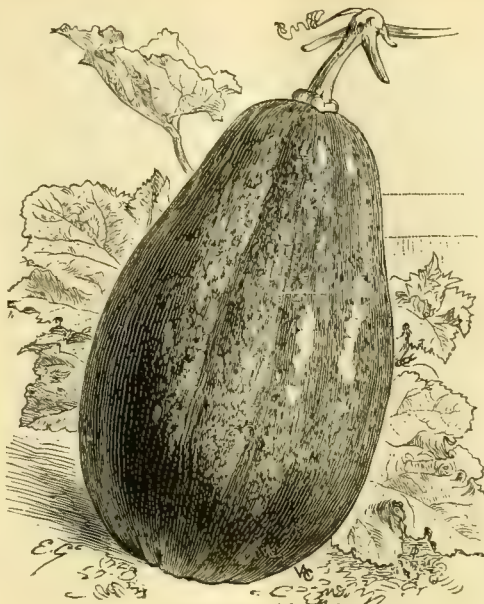


FIG. 115.—SQUASH MIREPOIX MUSK.

DUBLIN.

(Concluded from page 252.)

ST. ANNE'S, CLONTARF.—Lord Ardilaun's estate on Dublin Bay is always worth visiting, but on a fine autumn day it is particularly so, especially when you can get his Lordship's gardener, Mr. Campbell, to show you round this beautiful garden.

The glass-houses contain the usual stuff grown for a nobleman's place. The frames were filled at the time of our visit with a fine batch of

Cyclamens, some eight hundred plants. About eleven months from seed the plants were unusually large and the corms proportionately small, with plenty of bloom just about to open. In the vinery is a plant of the Strawberry Grape. It fills the whole house with a sweet pleasing smell like Mignonette. The taste is somewhat peculiar. In this house too is a small batch of Guavas, both the red and the yellow fruited varieties.

Of interesting tender plants out-of-doors, there are many. *Tricuspidaria hexapetala* was in flower and fruit in several parts of the garden. Against the walls, or rather wooden supports, some pretty climbers and half climbers have been planted, such as the Australian Blue Bell Creeper (*Sollya heterophylla*) and *Stauntonia*.

In the grounds Mr. Campbell pointed out a Rose, "Ashford Pink," which he found in an Irish garden growing up a tower to a height of 40 feet, and flowering at Christmas. The Rose pergola at St. Anne's is a very good feature; the Roses flower remarkably well. The herbaceous border is quite renowned, it is indeed a fine sight. *Sparaxis pendula* (*Dierama ensifolium*) was still flowering (end of September). *Bupleurum fruticosum*, with its sea-green foliage, was also in evidence.



FIG. 117.—PUMPKIN NICAISE.

There is a nice piece of rockery. *Daphne Blagayana* looked very flourishing, and when the shrubs round about it are cut away it should go ahead. Topiary-work is indulged in close to the mansion. The flaming beds of *Lobelia fulgens* however take one's eye. The varieties "St. Anne's" and "Lord Ardilaun" are used extensively, and go on flowering to the end of the year. Descending to the lake, one gets glimpses of the sea and the Hill of Howth at the entrance to the bay. At one end of the lake is a majestic clump of *Gunnera manicata*, each leaf measuring 8 feet and more across. Kingfishers disport themselves about here, and Lord Ardilaun, we are told, takes great interest in their movements.

A visit is not complete without drinking the water of St. Anne's Well, from which the place takes its name. This supplies the mansion with water at the rate of 36 gallons an hour.

Facing Lord Ardilaun's demesne is a piece of land called the North Bull Island, and if one is botanically inclined, it is worth rambling over. Quite a number of maritime plants grow here. Species of *Armeria*, *Aster*, *Eryngium*, *Erythraea*, *Salsola*, *Salicornia*, *Statice*, *Suaeda*, can all be found. On the seaward side of the island the Sea Matweed, *Psamma arenaria*, binds the loose sand of the sand-hills. A Kamtschatkan plant, *Artemisia stellata*, grows or used to grow on this little island. *Leo Farmar.*



FIG. 116.—RUNNER BUTTER BEAN, TALL, WITHOUT MEMBRANE.

FIG. 114.—TURNIP WHITE ROUND EPERNAY.

colour. The flesh is thick, of a bright orange-colour, and very sweet. Squashes are used to some extent in France, when quite ripe, for making into preserve and for pies, but in this country they are seldom cultivated, and then usually for ornament only.

BUTTER BEAN (fig. 116).

This is a white-seeded sport from the well-known Saint-Fiacre Pole Bean, having long, straight pods, which are produced in great abundance and keep tender until maturity. They are without strings, and possess an excellent nutty flavour. The seed, being white, may be eaten separate, either fresh, or dry as Haricots, an advantage of importance, since the same variety may thus supply several different dishes.

PUMPKIN NICAISE (fig. 117).

A valuable variety, with small, much-netted fruits, consequently the plants are capable of carrying three or four fruits each.

The illustrations, which are copyright, have been lent to us on the occasion of the Vegetable Conference by Messrs. Vilmorin, Andrieux et Cie.

NOTICES OF BOOKS.

THE FLORA OF THE PRESIDENCY OF BOMBAY.

By Theodore Cooke, C.I.E., LL.D., &c., formerly Principal of the College of Science, Poona, and Director of the Botanical Survey of Western India. Part III., *Casalpinea* to *Rubiaceae*. (London: Taylor & Francis; pp. 409 to 626, 8vo.

By the publication of the third part of Dr. Cooke's *Flora of the Bombay Presidency*, the first volume of that excellent work has been completed. Within the short period of two years the author has thus accomplished half his task. But in spite of the rapidity with which it has been put through the press, Dr. Cooke's work bears no trace of haste or slovenliness. This new part ends with the large and difficult Natural Order *Rubiaceae*, of which there are eighty indigenous species distributed amongst no less than thirty-four genera. As has been stated in the reviews of the first and second parts which have appeared in these columns, Dr. Cooke's descriptions are drawn up after the manner of Mr. Benthams. Excellent keys are provided for all the genera containing more than a single species, and the pages are not overburdened with synonymy. Besides descriptions of all species indigenous to the Presidency, brief but lucid notices are given of all the more important exotics cultivated in fields and gardens within its limits. The book is easy to work with, and it ought to prove of the highest use to all who have any interest, scientific or economic, in the vegetation of that part of the Indian Empire. As regards typography, Dr. Cooke's book is practically uniform with Sir Joseph Hooker's *Flora of British India*, the size of its pages being, however, somewhat larger.

The scheme of providing separate Floras for the various political divisions of the Indian Empire is being carried out at a rapid pace indeed! In the early part of the current year there appeared Mr. Kanji Lal's useful *Forest Flora of the sub-Himalayan Tract of the North-West Provinces and Oudh*. This was quickly followed by the lamented General Sir Henry Collett's *Flora of Simla* (the summer capital of the Supreme Government) and of its neighbourhood. A few weeks ago the first volume of Mr. J. F. Duthie's *Flora of the Upper Gangetic Plain* was given to the public, and Major D. Prain's *Plants of Bengal* will about this time be in course of issue in Calcutta. During the same period, moreover, there has also appeared a greatly enlarged edition of Mr. Gamble's well-known *Manual of Indian Timbers*—a book which, in addition to a vast store of economic material, contains much excellent botany.

This is indeed a wonderful record for twelve months, and it is one which proves that the science of systematic botany is still vigorously pursued in British India. *G. King.*

THE BOOK OF THE PEACH. By H. W. Ward, F.R.H.S. The Walter Scott Publishing Co., Ltd., London & Newcastle-upon-Tyne, 1903.

This is a well-written handbook on Peach and Nectarine cultivation indoors and outdoors, by a practitioner of many years' experience. The book contains much valuable matter useful to the novice and to the amateur. At the same time it is evident that the author's experience has been gained chiefly where the subsoil was amply drained naturally, for were we all to follow the his directions as regards drainage, the results would be most disastrous, as the maturation of the shoots could not be perfected.

There is comparatively nothing said about that important matter of lifting the roots so as to keep the feeders near to the surface, but, without an

abundance of these, Peach-growing on a heavy clay soil is not likely to be much of a success.

In lifting or for transplanting a tree, we are told "to take out a trench 15 to 30 inches from the stem." Now we consider the trench should be at least double that diameter or distance, even for the youngest trees, unless the roots are of no consequence. The roots in a well-managed Peach-tree should in every case be found growing horizontally. We are also told "in planting to arrange the roots with a slight inclination downwards"; but it is our regular practice to give the roots a slightly upward inclination, and the success attending this method warrants and justifies such a recommendation to others. Bud-dropping is also attributed to want of water at the roots; but we contend that a much more frequent cause is looseness of the soil and absence of lime.

The selection of varieties is excellent, and cultural details, with the above exceptions, are all sound and practical. It is quite feasible that with warm soils early varieties may be ripened as bushes or half-standards outdoors by frequent root-lifting and judicious mulchings.

FRUIT REGISTER.

AUTUMN-FRUITING VARIETIES OF STRAWBERRIES.

NOTWITHSTANDING the unfavourable weather of late, I have gathered several dishes of autumn Strawberries, the flavour of which, when the lack of sunshine and too abundant rain are considered, is fairly passable. I have a small plantation here of three varieties on trial—viz., *Jeanne d'Arc*, *S. Antoine de Padoue*, and *Le Coristane Féconde*, all of which grow and bear freely, and the fruits of middle size. These varieties, grown either in cold frames in the ground or in pots, should be given a trial. Ripe Strawberries in the dessert at this season are much appreciated, and their cultivation is most interesting. *F. W., Frensham Hall Gardens, Haslemere.*

The Week's Work.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Planting.—The constant heavy rainfall has obliged gardeners in many parts of the country to postpone planting operations excepting as regards trees and shrubs. A return to dry weather should see most of the spring-flowering plants set out in the beds, these succeeding better if planted in the present month rather than in November. In preparing the soil it is well to bear in mind the character of these plants as well as that of those which will succeed them. Most plants that bloom in the spring need a well-manured soil; but if manuring be carried on in too generous a fashion the beds will be spoiled for Zonal Pelargoniums and others which produce the most flowers in less rich soil. On the other hand, if Begonias, scarlet-flowered Lobelias, or Fuchsias will be the summer occupants, manure may be applied freely. In planting, a beginning may be made with the perennial plants which were split up and planted in the reserve-garden in early summer, following these with bunch Primroses, *Silene*, *Myosotis*, Wallflowers (these latter in poorish soil), and *Saponaria*. Bulbs such as early-flowering Tulips and Hyacinths may be left till last, as a few days earlier or later in planting them will make very little difference to the date of flowering. *Ranunculuses* and *Anemones* should be among those earlier planted. Both require a good deal of manure, which should be put below the tubers, and a small quantity of sand or road grit put around each tuber. If *Dactylis glomerata* form an edging to any of the beds, let it be taken up and divided, as if the clumps are allowed to get too large it is apt to die out or become shabby-looking.

Biennial Stocks.—East Lothian, Brompton, and other varieties of Stocks, seeds of which were sown in the month of August, may be potted in small pots, some mortar-rubble being used in the soil. When potted, stand in a cold frame as a protection against rain. During the winter treat in a similar manner to Carnations in pots—i.e., keep them dry overhead, cool and well ventilated, and apply water at the roots but seldom.

Summer Bedders.—The cutting-boxes of Zonal Pelargoniums should be frequently examined, and the plants divested of dead and dying leaves, leaving the leaf-stalks to be picked off later. *Verbena*-cuttings will be probably developing mildew, which must be checked forthwith by applying flowers-of-sulphur. To make up for the scarcity of any of the various subjects, let some plants be lifted from the beds and potted or boxed. Zonal Pelargoniums treated in this manner may have their tops taken and employed as cuttings, striking them singly in small pots in a warm, dry house.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Planting Fruit Trees.—In continuation of my remarks on the above subject in forming a new orchard from land under cultivation, undoubtedly the best kind of trees to plant are bush and pyramidal Apple and Pear-trees, the former on the Paradise and the latter on the Quince stock. Trees of this description should be planted 12 feet apart, and they soon give a return on the outlay incurred. Bush fruits may also be grown for a few years between the lines of standard trees. As to varieties, the grower will do well to find out what varieties succeed in his neighbourhood, and plant accordingly those that succeed there; other varieties can be added when desired. A portion of the ground should be reserved for Plums as dwarf standards; some of the better culinary varieties, such as *Victoria*, *Pond's Seedling*, and *Diamond*, do better in this form. It will be well, if the land be deficient in lime, to afford the area to be occupied by Plum-trees a good dressing of lime or, what is better, mortar-rubble broken up finely.

Peach and Nectarine Trees.—October and November afford the best time for lifting and root-pruning these trees. This year, owing to the excessive amount of rain, young trees have made very strong growth, and to lift them will give a useful check and assist in maturing the shoots. In lifting unfasten the tree from the wall, and dig out a trench beyond the point to which the roots have extended, digging out the soil from among the roots with a fork, and injuring them as little as possible till the foot of the wall is reached, then lift the entire mass out of the hole if necessary, and cut back most of the very strong-growing roots; then syringe the roots with water, and cover with a mat or two until the station is made ready for replanting the tree. It is good practice to add a wheelbarrowful or two of fresh turfy-loam and a sprinkling of lime-rubble, so as to induce the roots to make a start before winter sets in. Old trees will be benefited by having the leaves lightly brushed off with a new besom, taking care to draw it in the same direction as the shoots run.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bickton, Budleigh Salterton, Devonshire.

Plants for Forcing, such as *Hoteia* (*Spiraea japonica*), *Deutzia gracilis* and *D. Lemoinei*, *Staphylea colchica*, *Rhododendrons*, hardy *Azaleas*, &c., which have been planted for a year and a half in order to recover from the weakening effects of forcing, being now fit for further forcing, may be potted and stood in a cool house or pit, full ventilation afforded, and not allowed to suffer for want of water. These plants should not be put into a forcing-house till the end of December; those standing in pots should be plunged in new leaves or coal-ashes out-of-doors until required. Many of those named flower more or less each year, but much better results are obtained if they are afforded rest for one year and the flowers removed. For late spring deco-

ration few plants are more admired than *Dielytra spectabilis*, but it requires to be brought along gently.

Calceolarias.—These should be potted, using pots of 3 or 4 inches in diameter, and a soil consisting of loam, leaf-mould, and sand. The leaves are very easily damaged, and require much care in the handling. After potting, stand them in a cold frame, affording but little air for a few days, and keep the leaves moist with the syringe after the plants have been once watered with the rose-can. When making roots freely, afford more water to the soil. *Calceolarias* revel in abundance of fresh air when weather permits. I have tried to grow them in unheated pits throughout the winter; but the plants were so laden with moisture during wet and foggy weather that the leaves decayed more or less, so that I was obliged to remove them to airy shelves in a vinery from the end of the month of November till early in March. Let the plants be fumigated on the first sign of green-fly.

Humea elegans.—Shift these plants before they get pot-bound, stand them on a shelf in a cool house, and apply water carefully or they may go wrong at the root. They thrive in a soil similar to that used for *Calceolarias*, with the addition of a small quantity of lime-rubble or pounded charcoal, and in a like position in the houses.

Canterbury Bells.—These make an agreeable change for the greenhouse before the plants in the borders flower, which they will do if kept gently growing and protected from hard frosts. Lifted with good balls of soil and placed in 8-inch pots during this month, little or no check will be given them. Afford water after potting and plunge in coal ashes, covering them with a frame when frost sets in, but affording abundance of air when the weather is fine by removing the lights.

Aquilegias.—No plants are more admired when flowered under glass than choice hybrids of the Columbine, and to have the plants in flower in the spring pot strong crowns at the present time and treat like *Canterbury Bells*, assisting them with manure-water when the plants make a new start in the spring.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Cattleyas.—On inspecting the occupants of the Cattleya house, I was surprised to observe signs of the most satisfactory progress in the plants, although the season had been apparently so inimical to growth. Some of this good may be due to the fine weather experienced during the early part of the autumn. To keep Cattleyas in a close atmosphere, as is sometimes done, is a bad practice. Some cultivators of Orchids fear to make any use of the upper ventilators in the house. Now at Westonbirt, air has been admitted more freely this season than ever before, and with very satisfactory results. I left these ventilators open a little at night whenever the weather permitted, and by so doing the air of the houses was maintained in a fresh, healthy state, and less shading was needed in the early morning and afternoon. The new growths made under this kind of treatment became thoroughly matured, and we may expect flower-spikes of fine quality.

Applying Water.—The days having shortened considerably much less water will be required by the plants, and by those growing in leaf-soil but little indeed. I cannot recommend the use of leaf-mould alone, although I admit that healthy-looking plants are readily obtained by its use, but the quality of the flowers is not good. Some of the first to complete their season's growth are *C. labiata*, *C. Bowringiana*, *C. Martini*, *C. Mrs. J. W. Whiteley*, and other species and hybrids that flower in the autumn. Many of these plants have the flower-spikes already visible in the sheaths. Such forward plants should be kept moist at the roots. The spring-flowering species and hybrids, viz., *C. Trianae*, *C. Mossiae*, *C. Mendeli*, *C. Schroderae*, *L. purpurata*, *L.-C. Hyana*, *L.-C. fascinator*, *L.-C. callistoglossa*, *L.-C. Aphrodite*, *C. Skinner*, &c., now completing their growth, should be encouraged to mature it. With such Cattleyas

as are now resting, among which are *C. gigas* and *C. aurea*, I would point out the mistake, often made, of affording frequent applications of water to the surface of the compost, whilst leaving the material at the bottom of the pot almost dry. Healthy plants with plenty of roots soon cause the materials to become dry, thus far they should be frequently examined as to the state of the same in regard to moisture, and when water is afforded it should be sufficient to moisten the whole of the materials.

FRUITS UNDER GLASS.

By T. H. C.

Late Melons.—In the absence of sunshine much artificial heat will be required to ripen the fruits. At the present time plants growing in beds and borders require to be afforded water with much care, the loss by evaporation being very much less than during the summer. Plants growing in pots plunged in a hotbed or in a corner of the Pine-stove will require frequent supplies, and till the fruits reach full size should have liquid-manure whenever moisture is needed. The bine should be so regulated that each leaf may feel the full benefit of sunlight. Afford a night temperature of 70°, 75° to 80° by artificial heat by day, or 90° by sunheat, applying air whenever the weather is favourable for so doing. Syringe the plants only in the afternoons of fine days, and maintain a humid state of the air by damping paths, walls, &c., and if red-spider appears on any of the leaves remove it by syringing the latter with tepid water. Ripening fruit must be afforded a dry atmosphere, free ventilation, and water at the roots sufficient to prevent flagging. When quite ripe remove to a cool, dry room. Ripe Melons will keep in good condition for several days at this season.

Cucumbers.—Heat, light, and a moist atmosphere are three essentials for the successful fruiting of the Cucumber at this season, and if these can be provided in low span-roofed houses having bottom heat beds on each side, no difficulty will be experienced in providing Cucumbers. Plants raised early in the month of August are now commencing to produce fruits, the numbers of which must be limited to one to a joint, and this only when the bine is robust. Remove male flowers and all tendrils, and stop the growths at one joint beyond a fruit. Frequent light, rich, top-dressings are beneficial, and should be applied as soon as the roots appear at the surface of the soil, and an occasional sprinkling of Clay's fertiliser, followed by an application of tepid water, will also produce good results. Pinch out the points of later-planted Cucumbers as soon as the plants are half-way up the trellis, and stop the resulting shoots at the first joint beyond a fruit, but if the growth be allowed to more fully occupy the trellis-wires before cropping commences, the after results will be more satisfactory. Afford a night temperature of 65° to 70°, the former figure on very cold nights, and by day 75° by artificial means, or with sunheat 80° to 85°, with ventilation whenever practicable, closing the house early. Syringe the plants in the afternoon if the day is bright, and at other times maintain the air in a moist condition by the usual means.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Celery.—Take advantage of a dryish condition of the soil to mould up the later successions, making sure that the plants are not dry at the root, and that all suckers and deformed leaves are removed. Begin by placing a small quantity of fine soil round each, then tie a bit of bast or twist a length of soft cord round the stalks just under the leaves, and make fast to a stake at each end of the row. Later Celery may not need moulding up before the last week in the month.

Digging and Trenching.—This sort of work should be pushed forward in favourable weather, but seeing that a good deal depends upon the locality and nature of the land, no certain rule can be laid down for the guidance of the gardener. Retentive soils are the better for being dug or trenched in February or March. Light loams may be dug or trenched in late autumn and early winter, and very light land just before

sowing and planting. Unless trenched every few years no description of soil will produce high-class vegetables. In trenching very heavy land having a clayey subsoil let the bottom spit be kept at the bottom, but dig into it a quantity of strawy manure and rough vegetable refuse in a state of partial decay, and it will in time be suitable if brought up in small quantities to grow good crops. Mortar-rubble and wood-ashes are very suitable material for putting at the bottom of the trenches in such land, aerating it and permitting the escape of moisture to lower levels, and in that way making the cultivable soil dryer and warmer. Other manures may consist of the contents of hotbeds and Mushroom-beds, of litter, leaf-mould, pig-dung, rotten stable litter, the clearings of dove-cotes, and ordinary farmyard-manure; and more especially that from the sheds in which oxen are kept. Cow-dung is poor stuff, still, when decayed, it is very suitable for crops that do not require high feeding.

Endive.—It has been difficult of late to blanch Endive owing to the rain, therefore some full-grown plants should be placed every week in the Mushroom-house or in some other suitable place to blanch. If the place is quite dark the Endive will not need to be covered. Place later succession plants in cold frames, late orchard-houses, or where protection of some kind can be afforded in the event of frost occurring. A good ball of soil must be taken with lifted plants, and the latter afforded abundance of air in fine weather. Afford them as much space as possible.

Lettuce should also be afforded glass protection, but crowding together should be avoided or decay will cause the loss of many plants. If slugs abound put a ring of quicklime or dry sawdust round the frame, and keep these substances dry and loose, so that the slugs will find a difficulty in getting over them. Seeds of Mustard and Cress should be sown once a week under glass.

General remarks.—Make all tender crops safe against frost. Apply weed-killer to weedy walks, taking great care that the killer, if there are Box-edgings or Grass-verges, does not reach the roots.

THE APIARY.

By EXPERT.

Work in the Apiary.—In those hives which are to be cleaned out, shallow frames and sections should be placed on the hive in the evening, as the bees will not be so upset as would be the case in the daytime. The roof should be securely placed, and the entrance closed up as previously stated. When the frames and sections are cleaned out, tie brown-paper round them so as to keep dust from them and apply a sprinkling of naphthaline or powdered borax. Dirty sections should be destroyed, being very cheap, and old sections often spoil the sale of the honey. Let the bees be well covered after taking away the sections or frames; and at the same time make note of the condition of hives, the number of frames and how much store honey exists, so that a little later feeding may be carried out accordingly. When a stock is noticed to be weak, feed rapidly before bad weather comes on, but do not disturb the bees more than can be avoided, and take care that no scraps of candy or honey be left about near the bees, a sure instigation to robbing. Each hive should be numbered and painted as soon as possible, and necessary repairs carried out. Skep or bar-frame hives should not be placed too near the ground on account of damp, but be raised from 1 foot to 18 inches off the ground. The bee-keeper must be guided in this matter by the position of his hives, as from some aspects the winds are rougher than from others. When the stock of hives in the apiary is to be increased, let the ground be levelled where they will stand; tilt the hives slightly forward and place them on bricks, with a small piece of timber resting on the brickwork. All honey in sections should be sold as soon as good prices can be realised; but if the honey must be kept for a time, keep it (also run honey) in a warm place in order to prevent them getting in a candying state. In the case of run honey, if it be candied, place the jars in a vessel containing warm water, which will soon cause it to liquefy, whereas with honey in sections it is impossible to get it to return to its original state.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, Oct. 19. { National Chrysanthemum Society's Executive and Floral Committees meet.

SALES FOR THE WEEK.

MONDAY, OCT. 19.—At Stevens' Rooms, Bulbs, Palms, Azaleas, Spiræas, &c.—Useful Nursery Stock at the Park Nursery, Stanmore, by Protheroe & Morris, at 11 o'clock.

MONDAY TO FRIDAY NEXT.—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30 A.M.

TUESDAY, OCT. 20.—Rhododendrons, Roses, &c., at the Nurseries, Sunningdale, Berks, by Protheroe & Morris, at 12.30.

WEDNESDAY, OCT. 21.—At Stevens' Rooms, Bulbs, Lily of the Valley crowns, Spiræas, Azaleas, Palms, &c.—20,000 Fruit Trees and Bushes at the Nurseries, Robertsbridge, Sussex, by Protheroe & Morris, at 12 o'clock.—Palms, Plants, Azaleas, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 4 o'clock.

WEDNESDAY, THURSDAY & FRIDAY, OCT. 21, 22, 23.—General Nursery Stock at the Nurseries, Ashvale, Aldershot, by Protheroe & Morris, at 12 each day.

FRIDAY, OCT. 23.—Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30 o'clock.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —49°

ACTUAL TEMPERATURES:—LONDON.—Oct. 14 (6 P.M.): Max. 59°; Min. 47°. Oct. 15 (10 A.M.): 55°.

PROVINCES.—Oct. 14 (6 P.M.): Max. 58°, Exeter; Min. 48°, Galway.

The position of the Royal Horticultural Society. Now that the holiday season has passed, the Fellows of the Royal Horticultural Society may not unnaturally feel some curiosity as to the present condition and prospects of the Society. They know that never in its chequered history has the Society been so flourishing as it is now. They know too that among the contributory causes to this state of affairs the foremost place must be accorded to the energy, zeal, and judgment of the Secretary. But in regard to the future they look for some more definite statement of policy than has yet been made public. All that they know at present is that the new Hall is in progress, that the money required for its completion, not to mention its endowment, falls considerably short of what is required. They know also that, thanks to the enlightened munificence of Sir THOMAS HAMBURY, the Society (or, what is better, certain trustees on behalf of the Society) will be, if they are not already, put into possession of the garden at Wisley, near Weybridge, made famous by its founder the late G. F. WILSON.

To render Wisley suitable for the purposes of the Society, a large expenditure will be necessary. Doubtless it will be judged expedient to leave the original garden pretty much as Mr. WILSON left it. But the surrounding acres must be drained and trenched to render them suitable for the collections of fruit-trees, Vines, and vegetables which

it is to be presumed will be grown there, and for the formation of trial-grounds for the verification of the nomenclature and the estimation of the quality of the various subjects sent for trial. Houses and pits must be built and heating apparatus provided. Shelter-belts will probably be required. A small laboratory should be erected and placed under the charge of a competent botanist acting under the direction of the Scientific Committee. It is not necessary, at any rate at first, that any very elaborate or extensive establishment of this kind should be constructed, nor at first need the equipment be costly. A modest building would suffice to obtain answers to some at least of the numerous scientific questions bearing directly on practical horticulture which turn up at such frequent intervals. This part of the Society's business has always been thoughtlessly, but none the less grievously, neglected.

We do not intend to pursue this particular subject at present, we simply allude to it as one, if not really the most, important thing that the Society, having regard for horticultural progress, has to do in the future. We mention it now to show that not only will the Hall need a substantial endowment, but the garden also.

It is not surprising therefore that the Fellows of the Society, or that numerically small but potentially most important proportion of them that really care for the development of horticulture, should feel some uneasiness as to the future financial position of the Society, and look to the Council for some guidance, or at least for some explanation of their policy.

We have not been told, for instance, definitely when Chiswick is to be abandoned, nor what sum, if any, is to be expected for the surrender of the lease. In any case the amount received will probably not more than cover the expenses of removal, and will go but a very little way towards rebuilding at Wisley, and equipping the garden there with the necessary houses and other requirements to which we have alluded.

To outsiders it would seem as if the better course would be to complete the Hall as speedily and satisfactorily as possible; to retain Chiswick as it is for the present, and not to expend much money either there or at Wisley till the Hall is completed and free from debt.

"THE BOTANICAL MAGAZINE."—In the October number of this old-established publication, in the editorship of which Mr. W. B. HEMSLEY is now associated with Sir JOSEPH HOOKER, we find figures and descriptions of the following plants:—

Areca? Micholitzii, t. 7917, Hort. Sander.—A handsome Palm with pinnately-cut leaves and branching inflorescence. It is a native of New Guinea, but as no fruit has been yet produced its generic position is still uncertain. Flowered at Kew.

Cotyledon pulvinata, Hook. f., t. 7918.—Differs from most of the *Echeverias* in its branching habit, scattered leaves densely covered with whitish, silky hairs. A native of Mexico; flowered at Kew in 1903.

Lysimachia crispidentis, Hemsley, t. 7919.—A native of Central China. The plant is a glabrous perennial herb, loosely branched, with oblong leaves tapering into a rather broad stalk and with a pink margin. The small lilac flowers are

in loose spikes. Seeds were sent home by Mr. WILSON, and there seems every probability that the plant will improve under cultivation.

Tulipa præstans, t. 7920.—See *Gardeners' Chronicle*, 1903, vol. i., p. 324, fig. 126.

Lissochilus purpuratus, Lindley, t. 7921.—Flowers lilac, in loose spikes, lip deeper in colour and plicated. Tropical Africa.

WOBURN EXPERIMENTAL FRUIT FARM.—The third report of this interesting and valuable establishment has been published by the Duke of BEDFORD and Mr. SPENCER PICKERING (ETRE & SPOTTISWOODE). It is almost entirely taken up with the discussion of the injurious effects produced by growing grass close up to the stems of the fruit trees. No ill-treatment of any kind is so harmful to the trees as growing grass around them. The experimenters have not hitherto been successful in ascertaining the cause of these deleterious effects. The suggestions that naturally occur as probable will not, it appears, bear examination. Neither interference with the supply of food, water, nor of air to the roots has been proved to have any direct effect in this connection. The facts as seen at Woburn are beyond dispute. On the other hand we must remember that the greater portion of the Kentish orchards are grassed over, and that sheep are grazed in them. The manure so obtained may probably compensate for the injury effected by the grass. In the newer plantations the trees are almost invariably grown in open soil.

THE NORTHERN STAR.—Mr. G. BENSTEAD, of Holbeach, writing to a Lincolnshire paper recently, relative to the Northern Star, gives the following interesting result:—"I have to-day been digging the produce of four Star Potatoes, 1 lb. in all, and I find that I have 9 st. of Potatoes from the 1 lb. I have more to dig, and I am expecting them to yield better."

—"From 2 lb. of Northern Star seed Potatoes," writes a Surrey correspondent, "I have obtained a crop weighing nearly 5 cwt."

NEPENTHES NORTHIANA PULCHRA.—From M. JARRY DESLOGES, Château de Remilly, Ardennes, France, we have received a magnificent pitcher of this species. It does not differ materially from the type, as figured in the *Gardeners' Chronicle*, Dec. 3, 1881, in form, but the crimson or carmine colouration is extraordinarily rich. The pitcher from base to tip (not including the lid) measures about 26 cent. (10 inches); the margin is boldly recurved, irregularly toothed, finely striated, and of a rich golden-brown striped with crimson. From this the brilliant colouration of the pitcher may be understood. The plant, we are informed, is very robust.

VEGETABLES FROM GEORGIA (U.S.) FOR THE ENGLISH MARKET.—A correspondent informs us that it is well known Sir T. LIPTON has purchased some 10,000 acres of land in the State of Georgia for the purpose of growing vegetables for home markets and for the feeding of cattle to be sent to the English market in competition with the Chicago hog ring. Fruits will no doubt be cultivated there in great variety.

"HOME FLORICULTURE."—Under this title, Mr. EBEN. REXFORD has prepared and Messrs. KEGAN PAUL, TRENCH, TRÜBNER & Co., have published a handy little book intended as "a practical guide to the treatment of flowering and other ornamental plants in the house and garden." The author has endeavoured to supply "plain, practical, easily understood information, which will enable those who love flowers, but know very little about them to grow them successfully." Some fifty short chapters deal with the generalities of plant culture and with the special requirements of particular plants. The directions are plain and practical. Some of them are obviously

adapted to different climatal conditions to those we enjoy (?), but if read with intelligence, and modified according to circumstances, they will be found very serviceable. The book is one of the best of its class.

CHRYSANTHEMUM SHOW AT ROME.—The Florists' and Gardeners' Mutual Society of Rome has just issued a 20-page schedule of its autumn exhibition of Chrysanthemums and ornamental foliage plants to be held in the Palace of the Fine Arts from November 11 to 22 next. The rules and regulations are fully set out, and then follow the list of classes, forty-seven of which are reserved for the Chrysanthemum. The several classes are grouped into sections, such as novelties, Italian varieties, general collection, large flowers, &c., provision being made both for cut blooms and plants in pots. The remainder of the schedule, comprising thirty-five more classes, is devoted to ornamental plants, chiefly suitable for apartments. The prizes will consist of Diplomas of Honour, Silver-gilt, Silver, and Bronze Medals, and Honourable Mentions.

"GARDENING IN INDIA."—We ought long ere this to have noticed the publication of a third and revised edition of Mr. G. MARSHALL WOODROW's work under the above title. It has been added to by a supplement and numerous additional illustrations. It was originally issued for the use of the soldiers in India, but is equally well adapted for those generally who cultivate plants for pleasure or profit in the tropics. It is encyclopædic in its character, and contains much information on points of detail that will be useful in the home country also, and valuable for reference for those who desire to know something of the climatal and other conditions under which certain plants grow. A few misprints are observable, but they do not detract from the value of the book, which is indispensable for those addicted to gardening pursuits in India. It is provided with a good index. It is published by THACKER & Co., of Bombay.

TRANSPLANTING AT NIGHT.—According to the *Moniteur d'Horticulture*, M. ROUALT has been making experiments in the removal of trees in full leaf in the summer months, during the hours between 9 in the evening and 2 in the morning. His success, according to the corroborative testimony of several witnesses, has been unequivocal. This is another of those experiments that could easily have been repeated at Chiswick, without waiting for the formation of an experimental station at Wisley.

HARDY FRUIT AT THE CHISWICK SHOW.—In our report of the large combined show of fruits and vegetables at Chiswick, our reporters inadvertently omitted to remark upon an exhibit of thirty dishes of hardy fruits shown by Major POWELL COTTON, Quex Park Gardens, Kent (gr., Mr. JAS. COENFORD). In addition to Apples and Pears, which were exhibited in very fine condition, there were Plums, Peaches, Damsons, Figs, Mulberries, &c. This collection was awarded 1st prize, including the Hogg Medal; and the 2nd prize went also to Kent, being awarded to T. L. BOYD, Esq., Tonbridge.

THE DULWICH CHRYSANTHEMUM SOCIETY (Affiliated with the National Chrysanthemum Society).—We are informed by Mr. C. A. YOUNG, hon. sec., that a lecture on "Chrysanthemums" will be given by Mr. EDWIN MOLYNEUX on the 21st instant. The chair will be taken by Mr. CURTIS at 8 P.M., and admission is free.

STOCK-TAKING: SEPTEMBER.—To-day everybody is taking stock, not only of our own trade and commerce but of that connected with all the Colonies and of every foreign country with which we have business connections; it is figures and the echo of numbers, turn wherever we may. To our own figures and their lessons there has ever

been approval, and those for the past month, issued by the Board of Trade, are, as regards imports, very satisfactory. In exports there is a small decline as compared with the condition of things in September, 1902. The value of the imports of last month is £45,451,184, against £41,764,491 for September, 1902—a gain of £3,686,693. The great mass of the gain here is in what is peculiarly termed "the food of the people"—grain, flour, and all kinds of provisions from all parts of the globe. The following condensed "summary" table is always of use:—

IMPORTS.	1902.	1903.	Difference.
	£	£	£
Articles of food and drink—duty free	8,797,572	10,331,032	+1,533,460
Articles of food & drink—dutiable	9,720,033	11,190,567	+1,470,534
All other Imports...	23,246,886	23,929,585	+682,699

Imports of timber are of considerable interest to many of our readers; it will be still more so when land in the Sister Isle comes to be properly handled under the Land Act of this year. The total imports from the colonies and foreign countries amounted last month to £3,812,929, against £3,287,176, an increase of £525,753 over the same period in 1902. By the way, it may be stated here that the timber used in the Canary Islands for the manufacture of Banana, Tomato, and Potato cases comes from Scandinavian and Canadian sources. At the present juncture, when we learn to know the value of fruit, our figures relating to the imports of fruit, roots, and vegetables, will be found very interesting:—

IMPORTS.	1902.	1903.	Difference.
	Cwt.	Cwt.	Cwt.
Fruits, raw—			
Apples	235,212	482,148	+246,936
Apricots and Peaches	190	217	+27
Bananas ... bunches	331,444	330,761	—683
Cherries	73	...	—73
Currants	81	45	—36
Gooseberries	2	...	—2
Grapes	120,084	144,529	+24,445
Lemons	31,476	43,651	+12,075
Nuts—Almonds ...	14,159	16,919	+2,760
Others used as fruit	42,588	42,847	+259
Oranges... ..	7,368	10,917	+3,549
Pears	188,807	93,642	—95,165
Plums	141,540	337,042	+195,502
Unenumerated ...	131,396	127,389	—4,007
Vegetables, raw—			
Onions ... ..bush.	888,040	938,099	+50,059
Potatoes ... ..cwt.	215,051	356,599	+141,548
Tomatoes... ..	79,898	100,700	+20,804
Vegetables, raw, unenumerated ...value	£20,469	£16,554	—£3,915

"Plums are Plums" nowadays. In the street the other day we noticed good samples selling at from 5d. to 8d. per lb.—that is to say, in many cases they cost 1d. per fruit. Some "dumpers" are making money at the Cape, and in sundry sections of South Africa growers appear to be girding their loins for Plum-growing; and in Canada cultivators in both Quebec and Ontario are bestirring themselves in the same field. The Bureau in Ottawa has just issued a little but complete brochure on the subject, treating on everything from sites and varieties to vermin and their extinction. Stress is laid on the value of farm-yard-manure in connection with stone fruit, such as the Plum; but if all farm work is to be done by steam, and haulage falls to the lot of the motor, the chemist will have to look to it. Foreign visitors complain of the absence of fruit syrups in our places of refreshment. Canada promised to help in this matter some years since. Temperance people in all fruit-growing countries should give heed to this subject—it will pay. The Banana in the Canaries does

not suffer at all by the subsidised competition of the growers in the West Indies; most of the fruits come to market, and quality leads the way here as in most things. The value of imports for the past nine months of 1903 amount to £394,237,561, against £388,871,037 for the same period last year, an increase of £5,366,524—a very creditable result. The figures for—

EXPORTS

are not so favourable as in our last record; unrest, mistrust, actual war, "cornering," are at the root of the misfortune, and more may come; but the loss for the month is only £480,350, the figures being for last month £23,315,751, as against £23,796,101 for September of last year. The principal offenders are to be found in cotton, ships built for foreigners, and in coals. There are ups and downs in the other sections of exports, but we need not note them at length. The figures for the past nine months are £217,378,805, against some £209,500,671 for the corresponding period in last year—showing an increase in 1903 of £7,878,134.

PRESENTATION.—On Saturday evening, October 3, a large number of the inhabitants of Bwlch and district assembled in the Reading-room, Bwlch, for the purpose of making a presentation to Mr. J. DINWOODIE, who has resigned his position as head gardener at Buckland to take a similar appointment under Mr. J. CORY, The Duffryn, Cardiff. The chair was taken by Mr. FRANCIS EVANS, The Vine. Mr. DINWOODIE was presented with a very fine silver English (centre seconds) lever watch, a gold albert chain and locket, and a gold scarf pin with cluster of pearls and sapphire. Upon the watch was inscribed, "Presented to Mr. J. DINWOODIE by the Buckland employes and others, as a token of the respect and esteem in which he is held in the neighbourhood. September, 1903." To Mrs. DINWOODIE was given a gold bangle, their young daughter JEANE also receiving a small silver bracelet, the gift of Mr. J. HANDO, jeweller, Brecon, who supplied the several articles. The presentations were respectively made by Mr. T. THOMAS, the eldest employé in the gardens, Mr. R. FITTON, and Master TOMMY CROSS.

MR. ROBERT SYDENHAM.—Our readers will be interested in hearing that Mr. SYDENHAM has enjoyed his trip to South Africa, and has been greatly interested in his visits to various gardens in the Cape, Natal, Transvaal, and the Orange River Colony. He was to sail from Cape Town on the *Saxon* on the 14th of this month, and to return to this country at the end of this month.

THE POTATO BOOM.—From the *Lincolnshire Free Press* we understand that for some time past considerable interest has been excited by the high prices which have been obtained in the Spalding district for various new varieties of Potatoes. Differences of opinion naturally prevailed as to which was the best Potato, and a good deal of discussion has taken place in agricultural and market-garden circles as to the relative merits of certain new varieties. A crisis was reached on September 22, when three separate challenges were made—the Potatoes concerned being the Northern Star, King Edward VII., and the Evergood. The only challenge accepted, however, was that of Mr. W. J. ATKINSON, who declared for the "Evergood." Mr. ATKINSON states, in the *Lincolnshire* paper referred to, that—

"With the Northern Star Potato at a high price, and only a small stock to grow from, it will be impossible for it to be the Potato for the acres for a season or two. We have in the Evergood a tremendous cropping Potato; but the important question with Potato-growers at the present time is—'What Potato will resist blight best?' I say it is the Evergood; and to confirm what I say I have to day placed in the hands of the Editor of this paper a cheque for £20 for competition. The competitor to place £25 in the hands of the

Editor, and in return he [the competitor] will be allowed to go into a field of Evergood Potatoes of my growing, and for each £5 deposited he will be permitted to dig for two hours (or he can have a substitute to dig for him), receiving in return £1 per lb. for each pound of bights found. After any deposit, arrangements will be made to carry out the competition as promptly as possible. Should the £20 be consumed the competition will terminate, but should there be over that amount at the finish I will take half of it, and hand the other half over to the Johnson Hospital, Spalding."

This challenge was promptly accepted by Mr. R. KENT, of Spalding, as representing Messrs. SINCLAIR & SON, New York, Boston, who deposited £5 in the hands of our contemporary. On the appointed day, therefore, an interested company met on Mr. ATKINSON's farm at Pinchbeck, those present including Mr. G. MASSEY, of Spalding, who acted as referee; Messrs. C. TOWNELL and W. LEGGATT, who represented Messrs. SINCLAIR; and Mr. W. J. ATKINSON. Instead of one man digging for two hours, it was mutually agreed that two men should dig for an hour in a field of the Evergood; and so sanguine was Mr. ATKINSON that he allowed two men to dig, two men and two boys to pick, and Messrs. TOWNELL and LEGGATT and the referee carefully to inspect every tuber that was dug. The issue was not long in doubt. The first half-hour's work left no room for question. When the hour had elapsed, the referee declared the following extraordinary result—11½ cwt. of Potatoes dug; only fifteen small tubers, weighing 11 lb. 14½ oz., were blighted; and the weight of crop proved to average 18 tons per acre. The test was in every respect a most rigid and searching one, and Mr. ATKINSON and the Evergood won, hands down.

LIVERPOOL HORTICULTURAL SOCIETY.—The above Society is unable to secure St. George's Hall for its annual Chrysanthemum Show, and has decided to hold it in the Drill Hall of the 4th Liverpool Volunteer Artillery. The Drill Hall is situated opposite the Botanic Gardens, and is a large and commodious building, in every respect suitable for a floral display, within easy distance from all the tram routes and Edge Hill Station. Numerous entries are already registered, and there is every prospect of having a grand show of the Autumn Queen.

FRUIT-TREE GIRDLES.—The useful sticky girdle or band for trapping the winter moth and many other enemies of our Plum and Apple trees is now well known to and employed generally by cultivators. Recently an improvement on these traps has been brought out, which consists of strips of corrugated card or d having a plain smooth outer surface. The bands are laid round the stem of the tree and stronger branches with the corrugated side touching the bark, early in the autumn, and removed in early spring and the captured larvæ and chrysalids destroyed. The band is left open at the bottom and tied close to the bark at the top. Over this girdle the usual sticky band may be secured, thus making two sorts of traps instead of one, as is the case with sticky girdle in common use. *Illustrated Flora.*

UNIVERSITY OF LONDON: SOUTH-EASTERN AGRICULTURAL COLLEGE—COUNTY COUNCILS OF KENT AND SURREY.—The College authorities furnish the following account of the number of students in residence, and the additions made to the equipment of the College:—"The South-Eastern Agricultural College, Wye, commenced its tenth session on September 25. Seventy-seven students are in residence, this number being an increase of twenty-two on the number at the commencement of last session. The equipment of the College has been improved by the addition of a carpenter's shop and of an ironwork shop fitted with lathe and three hearths for farriery and other

forge work. A Forestry department is also in course of establishment, additional land having been taken for the purpose. The College Hop-garden fortunately escaped the full severity of the recent gales, and gave a yield of 13 cwt. per acre of very fair quality Hops. Through the instrumentality of Mr. EDWIN ELLIS, one of the Surrey Governors of the College, a Southdown flock has been established, thirty-three ewes and a ram having been presented by the following well-known breeders: the Dukes of DEVONSHIRE and NORTHUMBERLAND, the Hon. H. CUBITT, Messrs. BRASSEY, COSMO BONSOR, COLEMAN, CZARNIKOW, E. ELLIS, PLUMPTRE; whilst Mr. ELLIS has also lent a ram from his successful flock. The thanks of the College and all connected with it are awarded to all these donors for their generosity and public spirit. It is intended to maintain the Kent flock as well, and to carry out experiments on cross-breeding. The equipment of the farm has also been improved by the erection of a range of breeding-styes for housing ten sows of different breeds, whilst bullocks of different breeds are being fed this winter, all these trials being carried on for the information and benefit of the students."

— **LECTURES BY MR. A. D. HALL.**—Mr. A. D. HALL, M.A., Director of the Rothamsted Experiment Station, delivered the first of a course of lectures on "The relation of the composition of the plant to the soil on which it grows," at the Chelsea Physic Garden, on October 13. The lectures form part of a postgraduate course on advanced botany of the University of London, and will be continued every Tuesday until December 8, at 3 P.M., at the Physic Garden. Mr. HALL began by explaining that though he was dealing with such matters as the quality and even the market price of articles like Wheat, Barley, and Potatoes, it should not be supposed that such studies were unworthy of the notice of a University audience. The market possesses a perception of small differences, which would go unnoticed by the scientific man, but which often afford clues to the interpretation of the larger problems of science. In this way the study of the factors constituting "quality" in vegetable products opened up at the real complexity of the problems connected with the nutrition of plants. Mr. HALL then proceeded to give examples of the differences in value that prevailed, as indication of differences in composition brought about largely by variations in soil conditions. While the best English Wheat is only costing the miller 28s. 6d. at his door, he is also paying 32s. 6d. to 35s. for Wheats like Russian, Kansas, or Northern Duluth. Malting Barley will fetch 27s. to 34s., whereas the same kind of seed from an adjoining farm may only be worth 20s. to 25s. for feeding purposes. Potatoes grown on the red soils of Dunbar often sell at nearly twice the price of the same variety grown on the fen and other black soils. Taking a series of analyses of typical crops, the part played by the soil in supplying the elements of these crops was then discussed. The direct supply of plant-food by the soil was however shown to play a comparatively unimportant part in influencing quality as compared with such factors as water-supply and temperature, climate and season. This was illustrated by a comparison of the composition of the Wheat grown at Rothamsted, showing differences from season to season that are much larger than the differences from plot to plot, despite the great variation in the manuring to which the plots are subject. The general relations of soils to water supply and temperature were then discussed, such as the variations in the amount of water retained by different soils, the effect of drainage in warming the land, and the differences in the ground temperatures which could be induced by altering the colour of the surface or sheltering it from evaporation. Lastly,

these factors were shown to interact and affect one another, and also to produce variations in the rate at which the soil would yield its nutriment to crops in virtue of such bacterial changes as nitrification. Examples were drawn from the Rothamsted data of the very different effects of the same manures according as the season is wet and cold or hot and dry. The next lecture will deal with the general course of plant nutrition, growth and maturation, and the comparative effect upon it of light and heavy soils.

DICTAMNUS FRAXINELLA.—The Editor has to acknowledge, with many thanks, the kindness of numerous correspondents who have favoured him with seeds of this plant for trial.

FESTIVITIES AT MESSRS. CHEALS' NURSERY.—On Saturday the 3rd ult. Messrs. CHEAL & SON, of Lowfield Nurseries, Crawley, entertained all their employes, with their wives and families, in honour of the home-coming of Mr. ERNEST CHEAL with his bride, also as a welcome to Mr. and Mrs. ANNETT on their return from Ceylon, where they were married last March; Mrs. ANNETT being the eldest daughter and Mr. ERNEST CHEAL the eldest son of Mr. J. CHEAL, the senior member of the firm.

SHIPLAKE COURT, HENLEY-ON-THAMES,

[See Supplementary Illustration]

THE property of R. H. C. Harrison, Esq., some 470 acres in extent, situated on the most picturesque portion of the river Thames, has natural beauties which have induced its owner to leave a large proportion of it as a natural garden, that part of the grounds having the turf beneath the trees and shrubs planted with Daffodils, Snowdrops, Crocuses, Primroses, and other hardy bulbs and plants, which, especially in the spring-time and early summer, make this one of the most interesting and showy parts of the garden.

The fine dwelling-house, though of recent date, is built after the manner of one of the solid-looking comfortable residences of olden time, and the garden surrounding it has been well developed by Mr. J. A. Hall, the gardener at Shiplake Court, during the thirteen years of his tenure of office up to the present time, the desired end of making the garden proper harmonise with the natural garden beyond, and shelving down to the river, having been cleverly attained.

At the entrance is the gardener's house, conveniently situated between the extensive kitchen, and fruit gardens on the one side, and the pleasure grounds on the other, the mansion, situated on high ground, being approached by a carriage-drive bordered by shrubberies, in front of which the sweet-scented Lavender and the yellow Broom are attractive features. On the west side of the house is a Dutch-garden, with trellis-work covered with Vines at the end, the beds in the centre having two of them filled with Rose Laurette Messimy, which had been and still were very fine. The other beds are filled with showy Salpiglossis and other summer flowers, and the border at the side had a mass of bloom in the Little White Pet Rose and other flowers. The view from this point extends over a portion of the county of Berkshire, the foreground of aged Walnut-trees in the garden itself, and the bend in the river below imparting to the scene its finest effects. Beyond and above the Dutch-garden and in harmony with it is a small orchard of dwarf and standard Apple-trees, the grass-covered surface being planted with flowering bulbs and bordered by Roses and other fragrant flowers; at the end being an ancient cottage, Vine, Rose, and Ivy-clad, and in all its rustic beauty of 200 years ago, when it was part of the monastic property then occupying the site. At this part of the grounds Shiplake Church, where Lord Tennyson was married, adjoins.

(To be continued.)

HOME CORRESPONDENCE.

ASTER THOMSONI.—This is one of the most charming among the dwarf section of Michaelmas Daisies, and should be grown by all who value autumn-flowering hardy plants. It differs in various points from most of the Asters, being distinct in leafage and habit, the stems branching from the base into numerous flowering shoots, which carry flowers continuously from mid-August to the end of October if the weather remains open so long. The flowers individually

NORTHERN STAR POTATO.—My experience with Northern Star exactly coincides with all that "R. H. P." stated on p. 235, but having propagated some Ever-goods by single eyes and by cuttings, I am doubtful as to whether all varieties will succeed under such treatment. Judging from a few roots already lifted, Northern Star will average 3 lb. per root; but the Ever-goods have only averaged $\frac{3}{4}$ lb. per root, and they are growing on the same ground and in similar conditions. In the latter portion of "R. H. P.'s" article one is led to believe that any variety would succeed if so treated. The haulm of Ever-

varieties so far as increasing the stock is concerned; but the question of "yield" after the employment of any method is dependent upon the cropping qualities and vigour possessed by the varieties themselves, which may, and often do, vary infinitely. Ed.]

PEACHES AT THE CHISWICK SHOW.—I was interested in the editorial remarks on p. 256. A friend as well as myself could not understand why no prize had been awarded the excellent fruits staged by Mr. Woodward and Mr. McIndoe respectively; one was given to very much smaller



FIG. 118.—FIRST PRIZE EXHIBIT OF VEGETABLES ARRANGED ON A SPACE OF 50 SQUARE FEET AT THE CHISWICK SHOW ON SEPTEMBER 29 BY MR. E. BECKETT, GARDENER TO LORD ALDENHAM, ALDENHAM HOUSE, ELSTREE.

[Mr. Ed. Beckett's Copyright.]

(For further particulars see our Report in the issue for October 3, p. 244, and p. 277.)

are large, rather like those of *A. Amellus*, though slightly paler in colour and not so heavy in build, the petals being narrow and well divided, giving the flowers a lighter and more graceful appearance. It grows to about 15 inches high, and each plant will, if allowed space to develop, grow into a perfectly shaped specimen well branched all round. For the front row in a border of herbaceous perennials, or even as a bedding plant, it would be excellent owing to the length of its flowering season, a feature that cannot be claimed by many Asters. I have seen it stated that *A. Thomsoni* is suited for the rockery rather than for the border, but this is not my experience, as I find it quite able to take care of itself if not allowed to get overgrown with things of coarser growth. J. C. Tallack.

good only grew 18 inches high, and then ripened off. Northern Star haulm is still green, and measures 6 feet, and there is not a trace of disease in the tubers, although there have been and are several varieties of Potatoes growing in close proximity to them that have got the disease. In Burbidge's *Cultivated Plants* I find that the record is held by Mr. Pink, then of Faversham, who dug 647 lb. from 1 lb. of seed of the variety *Eureka*, and 372½ lb. from a like amount of *Snowflake*, both those varieties being of American origin. The above crops were grown in 1875, so that in the culture of Potatoes we have not made such advance as is sometimes believed. F. K. D., Cheshire, Oct. 6. The various methods by which it was stated on p. 235 the Northern Star Potato had been increased are applicable to all other

fruits, and it was some little time before an on-looker turned over the card that we found written on the back, "Disqualified; not outdoor-grown fruit." A bystander said he could see well that those fine fruits of *Sea Eagle* and *Princess of Wales* were not grown on an outside wall. I replied that I have very similar fruits growing on an east wall in Devon; but this man evidently concluded the fruits shown were grown under glass. There was a vast difference in the two dishes of *Sea Eagle* shown as regards size and finish, and I should say quality as well. Devonian.

HUMEAS AND PEACH TREES.—Permit me to say, in reply to Mr. Muller's remark, that our Humeas were probably grown with abundance of air, top and bottom, is incorrect, for as a matter of

fact the plants were moved into the Peach-house early in March, when the leaves were tender and, according to his opinion, more susceptible to the "supposed" influence of the Humeas. Here they remained until the first week in September. Mr. Bastin informs me that Humeas have invariably been cultivated in the Peach-houses since he first took charge here, and he has never found any injury to result from their presence in the houses. On p. 236 I find another correspondent who has grown the two together in the same house without disaster. Again on p. 232 someone inquires as to Coleus affecting other plants. Surely gardeners have enough troubles to contend with without manufacturing them, and I heartily agree with the answer to that correspondent. *H. Smith, Foreman, Buscot Park Gardens.*

FOREIGN versus ENGLISH FIRMS.—It is a matter for regret that your correspondent "J. S. C.," in last week's issue of the *Gardeners' Chronicle*, p. 259, does not give us his experience regarding the quality of the bulbs which are offered in the catalogues of Continental firms at prices so much lower than those of English dealers. It is an easy matter to compare the catalogued prices of bulbs offered by different firms, but that is not enough, we must go further. The relative value of bulbs bought at such varying prices can only be ascertained by a comparison of the results obtained. If the cheap bulbs do not produce more than half the number of flowers that the more expensive ones do, where does the economy come in in purchasing them? They require the same care and attention, take up the same amount of space, and altogether the cost of flowering them is just the same as for first-rate bulbs, yet we may only get half the results. My experience with some of the Continental and also some of the cheap English firms has satisfied me that in many cases the so-called cheap bulbs are the dearest in the end; and I would strongly recommend those who have to show good returns to buy from reliable firms, regardless of the tempting offers made by some foreign firms of supplying cheap bulbs, and at the same time giving five or ten per cent. commission [much more in one instance brought under our notice last year]. That we can grow bulbs in the British Isles equal to any of the Dutch produce has been amply demonstrated. *S. P.*

THE RECENT GARDENERS' DINNER.—Many who were present on the enjoyable evening of the 29th ult. have expressed the wish that the dinner should become an annual one. I would go a step further than this, and suggest that an Association of Head Gardeners of the United Kingdom be formed, to meet at least once a year for the discussion of various matters connected with the profession, with a view of raising it from the confused state into which it is drifting. In making this proposal I have no wish to introduce any trade unionism into our ranks; but I think much good might be done socially, professionally, and from an educational point of view if the present Committee would take up the matter and make arrangements for instituting such an association. Most of the professions and trades are now united in some way, why should gardening remain in such a disorganised state? I may be told that we have various societies connected with the profession, but I fail to see how any of them could take up additional work. The Royal Horticultural Society has too many other subjects claiming its attention, and were it not so there are reasons why it cannot do anything in this way. I think there remains no remedy but to set bravely to work and help ourselves. *W. H. Divers, The Gardens, Belvoir Castle, Grantham.*

MR. WOODWARD'S PEACHES.—Having read that Mr. Woodward's Peaches were disqualified at the Chiswick Show and Conference, I am writing to say that the week before I was in the Barham Court Gardens, and observed some very handsome fruits of Sea Eagle, Princess of Wales, and others on a south wall. I am sure some of the fruits of the first two named must have weighed 9 ozs. apiece. The trees were not protected in any way. The same varieties were also observed in a Peach-case that was open in the front, but the fruits with the highest colour

were on trees on the open wall. *Alf. T. Goodwin.* [We are gratified to know that the mistake was corrected before the end of the first day, a fact that was notified in these pages. *Ed.*]

AN EXTRAORDINARY CROP OF ONIONS.—Mr. James Hex, gr. to Miss Carwithen, of Springfield, Newton Abbot, Devon, sowed last March on a square perch of land 1 ounce of Rousham Park Onion, and he has just lifted the crop, which consisted of 460 lb. of good, sound, saleable bulbs! *A. Hope.*

A GRAND EDIBLE FUNGUS.—A friend and mycophagist in Hampshire has recently afforded me great pleasure by sending half a dozen fresh and healthy specimens of a large and excellent edible fungus which I have not seen for the past ten or fifteen years, and never had the pleasure of eating until now: indeed, I only saw it once before, and then it was highly commended to me by the late Dr. Bull, of Hereford. It is known to science as *Amanita strobiliformis*, and is near of kin to the poisonous *Amanita muscaria*. The pileus or cap in the largest specimen was 7 inches in diameter, but it sometimes reaches 8 or 9 inches. It is convex, dirty-white with a faint tinge of ochre, sprinkled with large persistent warts, the margin even, and at first fringed with the remains of the torn veil, which is singularly soft and pulpy, so that it adheres to the fingers like paste. The cuticle peels off freely in large flakes, and the flesh is firm, thick, and beautifully white, as also are the gills. The stem usually 6 to 7 inches long and about 1½ inch thick, solid, and externally squamose with small acute scales, pointed downwards, but vanishing with age. The ring rather large, and torn at the margin. The bulbous base of the stem rooting and obconical, furnished with concentric marginate channels of a dingy ochrey-white colour, contrasting with the snowy whiteness of the rest of the stem. Gills rather close and broad, rounded behind and free from the stem. Certainly a noble species in appearance, to which the best figures extant fail to do justice. It has been recorded for the South of Europe, especially Italy, and is known in France, and Paulet records it as pleasant in odour and flavour, and delicious to eat. My correspondent says: "We find them excellent eating, and this year specimens have been abundant. The method of cooking with us is to peel the top as one does the ordinary Mushroom, cut in thickish slices, stew slowly in milk, with a piece of butter, and serve on toast. My daughter thinks it the best thing we get, but I prefer the large puff ball," &c. Our own experiment included two of the largest specimens cooked in the oven in the usual way, with butter, and covered down, so as to retain all the aroma until ready for the table. The residue were sliced and stewed in milk and butter, as recommended above, and served on toast. Three persons partook of the dishes, and pronounced them satisfactory. This fungus cannot be compared with the ordinary Mushroom, as it has its own special flavour, which is mild and delicate, reminding one of the white or pale forms of *Amanitopsis vaginata*, or the similarly-flavoured *Hygrophorus coccineus*. Those fungus-eaters whose taste lies in the direction of such strongly-flavoured species as *Agaricus arvensis* would doubtless condemn the present species as "namby-pamby," whilst there are others who would appreciate its greater mildness and delicacy, and vote in its favour. Personally, we prefer the "parasol" Mushroom, and "blewits," but tastes may be permitted to differ. Any way, *Agaricus strobiliformis* is a good and thoroughly harmless edible fungus, remarkably tender, and eminently digestible. What more can be desired? *M. C. C.*

A GOOD TUBULAR BOILER.—There is such a marked economy in using a Vertical Tubular Boiler over a Return Saddle boiler that I venture to mention the matter in my fellow-amateurs' interest. *R. G. Fletcher.*

THE SHREWSBURY CHAMPION GRAPE COMPETITION.—It is difficult to understand what Mr. Goodacre is driving at in his communication on the above subject in a recent issue. One thing is clear. He wants a shot

at someone. Evidently that some one is the [firm of] Messrs. Buchanan. He has, however, from behind the boulder of his "more friendly opponents," shot the judges—poor souls! Accidentally shot! Your correspondent cites the case of a man who stages culinary Apples and cattle Cabbages, and then complains because he did not get the prize, though he had the heaviest and biggest exhibits. What on earth has this to do with the case? Who advocates that the biggest and heaviest should win? Who has made complaint at not getting the prize? No one that I have heard of. Does not your correspondent himself at the very beginning of his remarks state "that it was admitted by all, including Messrs. Buchanan themselves, that the pointing was correctly and fairly done, and the judges' final decision a just one." No—your correspondent's illustration is quite irrelevant. There is little fear of large, coarse, unfinished "cattle Cabbage" sorts of Grapes receiving more than their just deserts from the hands of the gentlemen appointed by the Shrewsbury management to act as judges, as Mr. Goodacre knows from experience, and which I shall show presently. From the number of maximums given at Shrewsbury this year Mr. Goodacre argues that this goes to prove "how seldom it is possible to obtain the better class varieties in the best condition." Let us see. There have now been four champion contests at Shrewsbury. In all over 300 bunches have been staged in these contests alone. Out of this number 19 bunches have received the full maximum of points. Of these nineteen, eight were not of Muscat flavour, and eleven varieties were Muscat flavoured. Does this prove that out of 300 bunches examined by the judges, "how seldom it is possible to obtain the better class varieties in the best condition"? To my own and the judges' way of thinking it proves the reverse. Mr. Goodacre is of the opinion that the judges had some difficulty in transferring their vision from an elephant to a thoroughbred horse and assess each at its proper value, meaning, I assume, the 2nd and 3rd prize exhibits and his own. It suits Mr. Goodacre's purpose just now to sit on the back of his thoroughbred and turn up his nose at the poor passing elephant. What ingratitude! How unkind to old friends that have assisted him to victory in many a contest in the past! How many "elephants" had he to employ to assist in drawing off the Crystal Palace Champion Cup? I saw some of the contests for this Cup, and Mr. Goodacre had in his winning stands both "elephant" and "cattle Cabbage" sorts, and would not have won the Cup without them. Truly, as your correspondent says, "we ought to speak favourably of the bridge that carries us safely over the stream." I have seen every contest for the championship at Shrewsbury since it was inaugurated in 1899. The biggest "elephants" that have been staged by any exhibitor in these contests were staged by Mr. Goodacre himself, in the form of two Barbarossas, which received 7 and 7½ points respectively, the latter being the highest points awarded to any bunch in his exhibit that year. Other two bunches—not elephants, however, as regards size, but decidedly "cattle Cabbage" varieties (*Gros Maroc*)—received 5½ points each out of a possible 9. After this experience I am not surprised at Mr. Goodacre's feeling such disgust at these varieties; but surely it is lowering the standard of a great Grape-grower to try to belittle other growers who have been more successful than he with these varieties! I look upon Mr. Goodacre as the foremost Grape-exhibitor in England, and the most successful over a longer period of years than any other that I can call to mind. I certainly expected from his great experience a contribution on this subject of a very different sort. We are all proud of Shrewsbury; every horticulturist ought to be. Shrewsbury has done much for our profession, and can yet do more. Let us all endeavour, especially the competitors who have taken part in the Champion Grape class, to place practical and unbiased suggestions before the management of that great show, so that this important Grape competition may be placed on a just and fair footing to every Grape that is grown, and every competitor who wishes to exhibit. The point values ought to be so arranged and balanced that

the small grower, with perhaps but one vinery, who cannot turn out twelve bunches, all Muscats, but could show a mixed lot, all showing great skill and high cultivation—I say this gardener ought to have the same chance as his big brother of winning the Cup, which is not the case under the present point values. Superior cultivation ought to come out at the top, for, after all, is this not the aim and object of societies' giving prizes at all? There are certainly some rather confused notions in many quarters as to what is cultural skill in connection with Grape-growing. To my mind, as much cultural skill can be shown in growing a collection of vegetables as a collection of Grapes. As much can be shown in growing Black Alicante or Alnwick Seedling as Madresfield Court or Black Hamburgh Grapes. In the same way as much skill is required to breed and rear to perfection a Clydesdale or Shire horse as a thoroughbred. One breed might be called ornamental, the other useful. Both have their uses; the thoroughbred could no more do the work of the cart-horse than the Muscat-flavoured varieties of Grapes we now possess could fill the place of the other varieties. Both have their uses. It is from such non-Muscat-flavoured Grapes as Colmar, Alicante, Lady Downes, and the like that we draw our supplies from for about six months of the year, after the Muscats sorts are practically over, this not only for the supply of my Lord's table, but on a very much larger scale, of the British public. I placed before your readers what in my opinion was a fair basis of point values to work from. This, while giving due precedence to all Muscat-flavoured Grapes, and including Black Hamburgh (a point I have always advocated), does not exclude other varieties from the competition. I invite Mr. Goodacre to place before your readers the grounds of his objections to my suggestions, and to state what varieties of Grapes and what class of exhibitors would be penalised if such were adopted. This, I think, would be more profitable to all than shooting at varieties and judges. One point more I wish to notice. Your correspondent says it is amusing to find the Messrs. Buchanan comparing some of the Shrewsbury exhibits to what can be seen at our village shows. I did nothing of the sort. Far from it. What I said was that if the competition was restricted to Muscat sorts, it would in my opinion result in the exhibits dwindling down to the level of ordinary 2-lb. bunches, which can be seen at any local show in the country. I cannot remember a show of any importance where Grapes were exhibited to any extent during the last twenty-five years where perfectly finished bunches of several Muscat-flavoured varieties of about 2 lb. in weight could not be met with; but only once in all that time can I remember Alicantes or Alnwick Seedlings that could compare with the samples shown by Mr. Shingler in his 1st prize stand last year. As a set-off against a likely falling off of exhibitors through the alteration in conditions, Mr. Goodacre gives the names of three new competitors who are coming out next year. I hope he will not be disappointed, but unless they are made of different stuff from other exhibitors, I "doot the'll no ken yet." Until Mr. Goodacre convinces me that it is easier to stage twelve bunches all Muscat varieties than a mixed lot, I shall stick to my opinion that the number of competitors will drop off, and the interest and keen rivalry will grow less in this the greatest and most worthy Grape contest we have yet seen. *D. Buchanan, September 26, 1903.* [We hope future correspondents on this subject, if they desire timely publication, will severely prune their remarks before sending them. Our space is far too limited for long communications. Ed.]

MARIGOLDS IN POTS.—This may appear an unusual method of culture, but I have in my cold-house at the present time a plant of dark orange African Marigold, one of a bright golden yellow, and one of the gold striped French, all representing pedigree stock, which are the admiration of all who see them, they are laden with blossoms of fine size and rich colours. They are in medium-sized pots, which they have filled with roots, and they are treated twice a week to a slight sprinkling of Clay's fertiliser on the surface. They will go on flowering for a consider-

able time longer than the plants in the open air. The blossoms of the latter are saturated by moisture and stained by winds, but under glass the flowers are brilliant in the extreme. *R. D.*

SOCIETIES.

ROYAL HORTICULTURAL. THE CHISWICK CONFERENCE. VEGETABLES FOR EXHIBITION.

(Continued from p. 174.)

Mr. E. BECKETT, gardener to Lord Aldenham, Elstree, Herts, next read a paper on "Vegetables for Exhibition." He said evidence was not wanting that a keener interest was being manifested in the cultivation of vegetables for exhibition than had been the case for some years past. There was little doubt that the representation of high-class produce at the leading exhibitions throughout the country was mainly responsible for the change, and one need only observe the interest taken in the different competitions by visitors to the shows to be convinced of the good work that was going on.

A change for the better had taken place, and in this connection it was interesting to note that the old ideas regarding size had been superseded by a knowledge of what was best in the different subjects, in which quality was now rightly considered of first importance, while those thoughts were now generally regarded as the embodiment of all that was correct, there must not be a too hasty decision in determining the merits of the different subjects in so far as size itself was considered. High quality in any vegetables was not determined by mere size, yet there were those which undoubtedly demanded that essential as of first importance. It was much to be regretted that opinions varied so much on the question, and until a generally recognised standard had been set up it seemed hopeless even to expect that satisfactory progress would be made. The Royal Horticultural Society, as became its exalted position, was the one authority to take this matter in hand, and among its large and comprehensive list of experts in vegetable culture, it should be an easy task to call into existence a Committee capable of settling the question once for all, so that a uniform standard of quality might be recognised.

He was surprised to find that there were many under the impression that vegetables grown for exhibition purposes were of little use for the table, and to dispel such ideas a definition of what is quality or excellence in vegetables seemed to be necessary. The different subjects varied so much in character that each one should be clearly and unmistakably defined. By some such method it should be possible to arrive at conclusions most helpful to those who desired to cultivate vegetables at their best, and by these means also settle a much vexed question. It was most unfortunate that for some time past experienced cultivators had held views so diverse, because by this unsatisfactory state of affairs positions had often been reversed when an exhibitor had shown in two distinct parts of the country, and that was an effect which every thoughtful person must deplore. They had now arrived at a very important period in the history of the cultivation of vegetables for exhibition, and the present occasion appeared to be a fitting opportunity for ascertaining what should be done to attain ends which all truly interested must heartily desire. When once proper lines were laid down, all the judges should see that the adjudication of vegetables possessing high quality should be a simpler matter than it is to-day. Uniformity in judging was absolutely essential if success was to be achieved, and the best quality in different subjects was also to be represented. At the present time the point they wanted to discuss was how far size should govern quality. It was an easy matter to go to the extreme in both directions, and this again emphasised the need there was for a full and proper consideration of the point of quality in each individual subject. There was little merit in developing very large and coarse specimens of any vegetable, and badly finished ones offered the same objection. The standard which he had always set himself to follow was the production of vegetables that were equally well adapted for table use and for exhibition purposes, and in the attainment of his ideal he maintained that high quality could not fail to be achieved. He had never advocated the production of vegetables that were not suitable for table use, and

whenever he had been called upon to adjudicate, preference had always been given by him to exhibits in which excellence of culture and high quality had been represented. As an instance, take two of our common vegetables—the Potato and the Cabbage. When staged large and coarse, neither of them was so good or profitable as medium-sized well-finished specimens, no matter whether they be regarded from the point of view of home use or for commercial purposes. He always held that in making awards the varieties staged should most certainly be taken into consideration. His reason for this recognition of the different sorts in this way was that many of the most handsome varieties had little or no value when cooked, and all must agree that such varieties should be discouraged. This action was the more important when adjudicating upon the relative merits of such subjects as Potatoes, Tomatoes, Peas, and Turnips, in which a pleasing appearance was often misleading. While he deprecated coarseness in size there was a limited number of vegetables which represented the highest culture when extended to their utmost, but in such instances finish of the "very best" must also be attained. As an instance, take the Onion. Large, heavy, well-ripened bulbs, perfect in every respect, in which the best varieties were displayed in typical form and condition, were invaluable for many purposes in the kitchen, and these were certainly examples of high culture and equally high quality. Peas of the large podded kind were infinitely to be preferred to the smaller varieties, as they were usually well-filled, clean, and of good colour. Their flavour too was invariably better. The same remarks apply with equal force to French and Runner Beans, each of which now showed wonderful advancement over the old small-podded varieties, the leading varieties of to-day eclipsing those which found favour in earlier days. He was firmly convinced that Celery of high quality could not be grown too large, no matter whether it be for eating in the raw state or for culinary purposes. Well-grown, properly blanched, perfectly clean examples partook of the flavour, which was not nearly so pronounced in the smaller kinds.

As regarded Potatoes, clean and even tubers of medium size were a great desideratum, and the varieties should be of the best cooking quality. Diverse opinions were held as to the quality of the Cauliflower. At all seasons of the year that fine vegetable should be represented by heads of medium size, firm and perfect in shape, and remarkable for purity of colour. Large and coarse heads should be rigidly discouraged, as their want of quality rendered them of little value for table use. Cabbages and Savoyes came within the same rule.

Root crops should be represented by specimens of medium size and colour. Beetroot of large size was useless for exhibition and worthless for cooking purposes. The same might be said of Carrots and Parsnips, colour in the first being an essential consideration. Their chief points lay in shape and colour. Clean, tender Turnips of medium size represented the best quality. As to Leeks, he considered that a typical Leek should have a circumference of about 6 inches, and be blanched to the extent of 12 inches, more or less. There should be no sign of bulbing apparent, and they should be even throughout. Cucumbers were frequently exhibited far too large. A good grower would select fruit of a medium size, fresh, and well finished, and the variety should be one having a good reputation. These remarks applied with equal force to Vegetable Marrows. Avoid the large coarse kinds, giving preference to those of newer and improved forms, which were much the best for table use. Tomatoes were an invaluable unit in all collections of vegetables.

The general feeling regarding them was that they should be of medium size, but much depended upon the variety. Perfectly finished specimens were to be preferred to all others, and as a rule their flesh and flavour were much better. Smooth-skinned sorts of good colour were excellent for exhibition, and represented the highest quality. Mushrooms in a representative collection were telling, and they should be absolutely fresh, even, and of medium size. To achieve results of the kind described the highest culture was absolutely necessary. It was seldom possible to produce vegetables of high quality unless the ground had been properly prepared, and much careful thought and attention given to the details of the work beforehand. Premier awards in the leading competitions were not gained with garden produce grown in haphazard fashion. It was imperative that no plot of ground should be cropped two years in succession with the same subject. Onions excepted. A change of soil was necessary. As to the treatment

of the ground, he had no sympathy with those who simply dug their ground in the ordinary manner. Trenching was essential to success, and in its observance deep culture followed as a consequence. In the cultivation of vegetables for exhibition, deep culture was one of the chief factors in achieving success, and for that reason the work should be done in a thorough manner. Mr. Beckett advocated bringing the bottom spit to the surface. Trenching should be done to the depth of 2½ or 3 feet, and the bottom should be well broken. Root crops, such as Carrots, Turnips, Beetroots, and Salsify, should follow in ground previously occupied by Celery. Even in those instances he emphasised the need of trenching. Assuming that they had cultivated their vegetables satisfactorily, the question of the best specimens required a great amount of patience and overlooking of different crops. He then entered into details as to the treatment of different classes of vegetables for exhibition purposes, the packing and staging and general arrangement of the exhibits. He offered a number of suggestions as to the method of arrangement, emphasising the importance of uniformity. It was important that the number of specimens should be distinctly specified. In that way the work of adjudication was simplified, and the exhibitors were placed on an equal footing. In addition to Cauliflowers and Broccoli, which should be included in all collections, there should be Potatoes, Carrots, Tomatoes, and Onions; and, when in season, there should be included Peas, Artichokes, Brussels-Sprouts, Celery, Leeks, French and Runner Beans, Turnips, Asparagus, Beetroot, Cucumbers, and Vegetable Marrows. Mr. Beckett concluded by giving details as to the best types of the respective subjects.

Mr. PAGE inquired whether Mr. Beckett advocated the double trenching of the ground every year?

Mr. BECKETT: I do, wherever possible. It is not possible in many cases, as time will not allow of the trenching of the whole of the ground; but so far as possible I do advise it.

Replying to another question, Mr. BECKETT said there were means of arresting the ravages of, if not of exterminating altogether, wireworms. He had found burnt garden refuse mixed with soot one of the best remedies.

OCTOBER 13.—A meeting of the Committees was held on Tuesday last in the Drill Hall, James Street, Buckingham Gate, Westminster, four weeks after the last meeting in the same Hall.

There were more ORCHIDS exhibited than there have been recently, and an Award of Merit was recommended to a novelty.

The FLORAL COMMITTEE recommended but one award, this being a First-class Certificate to a *Nephrolepis* from Mr. H. B. MAY. There were large exhibits of Dahlias, Michaelmas Daisies, and Roses. Chrysanthemums are becoming more numerous at each meeting. Among indoor plants Begonias were shown largely.

The FRUIT and VEGETABLE COMMITTEE recommended Awards of Merit to a new Apple from Messrs. JAMES VEITCH & SONS, and to an excellent seedling Melon from Bearwood, the garden of A. F. WALTER, Esq.; Lady TATE exhibited some splendid Grapes from her garden at Streatham, and Messrs. W. PAUL & SON showed very satisfactory Apple trees in pots.

At the afternoon meeting there were sixty-four new Fellows elected to the privileges of the Society; and there was a paper read on "Autumnal Raspberries and Strawberries;" but the arrangements made for the comfort of the Chairman and of the audience left much to be desired.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and H. B. May, Chas. T. Drury, Geo. Nicholson, R. Dean, Jas. Walker, A. Perry, Jno. Green, J. F. McLeod, W. Howe, G. Reuthe, Jno. Jennings, Chas. Dixon, J. A. Nix, Chas. Jeffries, C. J. Salter, W. Cutlibertson, C. E. Pearson, R. C. Notcutt, Chas. E. Shea, W. P. Thomson, E. H. Jenkins, Chas. Blick, Ed. Mawley, and Geo. Paul.

Messrs. W. BULL & SONS, New and Rare Plant Establishment, King's Road, Chelsea, were awarded a Cultural Commendation for a dozen plants of *Dracæna Victoria*, a variety of the *Lindeni* type, with broad,

arching leaves, variegated with deep yellow colour. It is described as being an excellent "grower," and colours quite naturally without special treatment.

Mr. H. B. MAY, Dyson's Road Nursery, Upper Edmon-ton, London, N., showed a group of flowering plants containing well-flowered Bouvardias in variety, Begonias of the Gloire de Lorraine type, hybrid Veronicas, &c. Of the Veronicas, *Reine des Blanches* (white), and *Diamant* (crimson) were excellent.

Messrs. CRANE & CLARKE, Hillside Nursery, March, exhibited Tree-Carnation Enchantress, a large American variety of the type of Daybreak; and Lord Rosebery, deep crimson.

Mr. J. RUSSELL, Richmond Nurseries, Surrey, exhibited a considerable number of plants of *Aucuba vera*, carrying a fine lot of berries, and suitable for autumn and winter decorations.

BEGONIAS, ETC.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, King's Road, Chelsea, exhibited a display of their winter-flowering Begonia hybrids, and other plants that were full of bloom and exceedingly bright. B. *Agatha*, a variety a little similar to *Gloire de Lorraine*, but growing less tall; and *Agatha compacta*, a neat little plant 5 inches high, exceedingly free, with rich pink flowers borne erect above the foliage are very beautiful. Of the larger-flowered varieties there were *Ideal*, rosy crimson; and Mrs. Heal, still as good as any of these semi-tuberous, semi-fibrous rooted varieties. Messrs. VEITCH had also a fine display of winter-flowering zonal *Pelargoniums* in pots, a group of plants in flower of *Dedalicanthus parvus*, and half a dozen fine plants of *Gesnera* (*Nægelia*) *exoniensis*, a plant with thick, velvety, ovate leaves, bronze-coloured themselves, but quite covered with abundant short reddish hairs. In general effect it is similar to a *Coleus* (Silver gilt Flora Medal).

Messrs. AMBROSE & SON, Cheshunt, Herts, exhibited miscellaneous flowering plants in pots, such as Begonia *Gloire de Lorraine* and Turnford Hall, Lilies of the Valley, *Astilbe japonica*, and other species; also samples of the new black Grape Melton Constable Seedling, &c. (Bronze Flora Medal).

A group of Begonias from FRANK LLOYD, Esq., Coombe House, Croydon (gr., Mr. M. E. Mills), was composed of rather small, abundantly flowered plants of Begonia *Caledonia*, and of a pink-flowered sport from this, evidently possessing the same habit as *Caledonia*.

Messrs. J. PEED & SONS showed a quantity of well-flowered plants of Begonias *Gloire de Lorraine*, Turnford Hall, and Mrs. Leopold de Rothschild; also cut flowers of tuberous-rooted Begonias, *Gloxinias*, &c. These filled the table, stretching across the hall immediately upon entering.

Mr. A. H. GWILLIM, Cambria Nursery, New Eltham, exhibited a small group of Begonias of the tuberous-rooted section, and a large quantity of gathered blooms of single and double varieties.

CHRYSANTHEMUMS.

Messrs. JNO. PEED & SON, Roupell Park Nurseries, West Norwood, London, exhibited a bold group of Chrysanthemums in pots. Some of the plants carried large heavy blooms, especially the varieties *Soleil d'Octobre*, Mrs. Greenfield, Mrs. T. W. Pickett, &c. The Chrysanthemums were interspersed with ornamental foliage plants (Silver Flora Medal).

Messrs. W. WELLS & CO., Ltd., Earlswood Nurseries, Redhill, again exhibited a bright lot of Chrysanthemums from the open border, including such good varieties as *Rosie* (brownish shade of red), *Carrie* (yellow), *Blush Beauty*, *Reggie* (straw-coloured Pompon), *Polly*, *Orange Pet*, &c. There were also blooms of some of the large bloom section grown indoors, as Mrs. T. W. Pickett and Merstham Yellow, a promising Japanese exhibition or decorative variety (Bronze Banksian Medal).

Mr. W. J. GODFREY, Exmouth Nurseries, Devon, exhibited blooms of some of his novelties in Japanese Chrysanthemums introduced last season, and blooms of some good border decorative varieties, as *Pink Beauty*, *Harry Gover*, *Kitty Crew* (bronzy-yellow colour), *Miss Blake* (red), &c.; also some winter-flowering Carnations (Bronze Banksian Medal).

Messrs. JAS. VEITCH & SONS, Chelsea, exhibited a fine bold group of Chrysanthemums in pots. This was composed of well-grown plants bearing generally one large bloom. There were numerous varieties represented, including some novelties and the best of exhibition sorts. Donald McLeod, a flower suggestive of that of Lord Lowdown, at the front of the group, was very attractive.

MICHAELMAS DAISIES AND OTHER HARDY FLOWERS.

Messrs. W. CUTBUSH & SON, Highgate, London, N. and Barnet, Herts, exhibited an attractive and somewhat unusual exhibit of Michaelmas Daisies, mostly of the small-flowered sorts, as *Osprey*, *Enchantress*, the new "King Edward VII.," &c. *Osprey* and *Enchantress* were shown as plants 2 to 4 feet high in pots, and pretty objects they were, quite suitable for placing in vases in dwelling rooms. For this purpose the cuttings should be struck in spring, and grown without stopping. The variety *King Edward VII.* is very similar to *Enchantress*, but the flowers have a little more of the same colour. In addition to the plants in pots, there were half-pyramids of cut flowers arranged in vases on shelves, and bold arrangements of cut sprays in tall Bamboo stands (Silver Banksian Medal).

Exhibits of bright Dahlia-flowers, still uninjured by frosts, were shown by Messrs. THOS. S. WARE (1902), Ltd., Feltham (Silver-gilt Banksian Medal); Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley (Silver Flora Medal); and HOBBS, Ltd., Dereham, Norfolk (Silver Banksian Medal).

Messrs. JEFFERIES & SONS, Cirencester, exhibited a collection of cut Roses (Silver-gilt Banksian Medal).

Messrs. GEO. BUNYARD & CO., Maidstone, exhibited a group of hardy flowers, in which a large number of the best Michaelmas Daisies were shown, and representatives of a number of other species that are still in flower.

Mr. E. POTTEN, Camden Nurseries, Cranbrook, Kent, exhibited a group of hardy flowers.

Mr. AMOS PERRY, Winchmore Hill, London, N., exhibited a fine batch of bloom of *Polygonum molle*, a very effective species, also varieties of Michaelmas Daisies, amongst which were some richly-coloured seedlings of *Aster Amellus*, &c. The orange flowers of *Geum Hel-dreichii superba* were attractive.

FIRST-CLASS CERTIFICATE.

A First-class Certificate was awarded to *Nephrolepis Mayii*, a much-crested variety, with erect fronds, plumose pinnae 2 inches or more long, twisted spirally, and cristated in various ways. Shown by Mr. H. B. MAY.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (hon. sec.), De B. Crawshaw, W. Cobb, H. M. Pollett, H. Ballantine, J. Colman, F. Wellesley, J. Douglas, W. A. Bilney, G. F. Moore, A. A. McBean, F. W. Ashton, E. Hill, M. Gleeson, W. H. White, W. H. Young, H. A. Tracy, J. W. Potter, and H. Little.

There was a very good show of Orchids, several good groups and many interesting exhibits being staged. The finest group, to which was awarded a Silver-gilt Flora Medal, was staged by Messrs. SANDER & SONS, of St. Albans and Bruges, and in which the best novelties were *Cattleya* × *Gauthieriana* (*Schroderæ* × *Leopoldi*), a very pretty hybrid with blush-white flowers slightly marked with purple, and broad rosy-lilac front to the lip; *Cypripedium* × *Lamonteanum* (*Calypso* Oakwood var. × *Rothschildianum*), very distinct from other crosses of its section; a fine blotched *Odontoglossum crispum*, the clustered markings being yellowish-brown; and an improved form of *Miltonia vexillaria* *Leopoldi* with large maroon-coloured mask on the lip, and rose-purple veined petals. Also in the group were fine sets of *Lælio-Cattleya* × *Blechnleyensis*, L.-C. × *Luminosa*, the finely-coloured L.-C. × *Normani* *superba*, L.-C. × *Gottiana*, L.-C. × *Rubens*, L.-C. × *Hy.* Greenwood, *Cattleya* × *Pheidona*, C. *Gaskelliana* Helen, a pretty blush-white form; various good *C. labiata*, a fine *Vanda coerulescens*, a strong specimen of *Cypripedium insignis*, Harefield Hall, good *C. × Leander*, C. × *Argo-Rothschildianum*, C. × *Miss Louisa Fowler*, *Odontoglossum cristatum*, &c.

Messrs. JAS. VEITCH & SONS, Chelsea, were awarded a Silver Flora Medal for a fine group, the one part of which was composed of thirty-five excellently well-flowered and good forms of *Cattleya labiata*, the other part containing good varieties of *Lælio-Cattleya* × *Blechnleyensis*, L.-C. × *Nysa*, L.-C. × *Wellsiana*, L.-C. *Haroldiana*, L.-C. × *Empress Frederick* var. *Leonata* (a very perfect and handsome flower), L.-C. × *Aphrodite*, *Cattleya* × *Mantini* varieties, C. × Mrs. J. W. Whiteley, C. × *Wendlandiana*, C. × *Enid*, and *Lælia* Mrs. M. Gratrix.

H. T. PITT, Esq., Rosslyn, Stamford Hill (gr., Mr. Thurgood), staged a fine group which secured for him a Silver Flora Medal. It included *Oncidium ornithorhynchum* and its white variety, good *Odontoglossum crispum*, O. *luteo-purpureum*, O. *Harryanum*, O. *grande*, *Vanda Kimballiana*, *Sophror-Cattleya* × *eximia*, *Lælio-Cattleya* × *Adolphus superba*, a fine plant of *Cattleya*

× Mrs. Pitt with two spikes of nine flowers, C. × Mrs. J. W. Whiteley with a similar number, *Cypripedium Rothschildianum* hybrids, *Cattleya aurea*, many fine C. labiata, the handsome C. × Pittiana, various Miltonias, *Dendrobium Victoria Regina*, D. bigibbum, *Maxillaria picta*, *Nanodes Matthewsii*, *Lælia præstans*, &c.

Messrs. HUGH LOW & Co., Bush Hill Park, received a Silver Banksian Medal for a good group made up of a finely coloured *Cattleya* × *Martini*, good C. × Maroni, C. labiata, C. Gaskelliana albens, *Lycaste Skinneri* alba, *Pilumna fragrans*, *Lælia pumila*, *Lælio-Cattleya* × *intermedio-flava*, *Dendrobium formosum*, and a well-flowered plant of the pretty little *Masdevallia Lauchean*, white with some slight purple lines, and with recurved, orange-coloured tails to the three divisions of the perianth, shown as *Masdevallia Crookii*.

FRANCIS WELLESLEY, Esq., Westfield, Woking (gr., Mr. W. Hopkins), showed *Lælia* × *juvenilis superba* (*Peronia* × *pumila*), with two flowers of a bright purplish-rose, with maroon lip.

M. E. ZOLLINGER-JENNY, Zurich, sent a strong plant of a singular hybrid between *Cypripedium Victoria Mariæ* and *Spicerianum*, the habit and form of the flower being nearest to C. *Victoria Mariæ*, greenish with a conspicuous white upper portion to the dorsal sepal, the back of which had a downy purple line.

DE B. CRAWSHAY, Esq., Rosefield, Sevenoaks (gr., Mr. Stables), showed the plant of *Odontoglossum* (*crispum* × *Wilckeanum*) remarked on by him in the *Gardeners' Chronicle*, October 10, p. 263. As there stated, the resultant plant showed none of the colouring or spotting of O. × *Wilckeanum*, but was a good typical white O. *crispum*. Mr. CRAWSHAY also showed a good plant of O. *crispum* growing well in an ordinary glazed earthenware table-salt jar without a hole in the bottom.

J. FORSTER ALCOCK, Esq., Northchurch, showed a fine example of *Odontoglossum grande*.

Awards.

AWARD OF MERIT

To *Lælio-Cattleya* × *Norba superba* (C. Mossiæ × L. xanthina), from Messrs. JAS. VEITCH & SONS, Chelsea.—A pretty hybrid with canary-coloured sepals, primrose petals, and chrome-yellow lip, the front lobe of which is of a soft rosy-lilac.

CULTURAL COMMENDATION

To Mr. E. Hill, gr. to The Right Hon. Lord ROTH-SCHILD, Tring Park, for a magnificent specimen of *Lælio-Cattleya* × *Nysa superba*, with eleven fully expanded, large, crimson-lipped flowers and three buds. The plant had also borne a seed pod.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (Chairman); and Messrs. Jas. Cheal, H. Eslings, W. Bates, S. Mortimer, A. Dean, Ed. Beckett, H. J. Wright, J. Jacques, G. Reynolds, C. J. A. Nix, F. Q. Lane, J. Willard, Geo. Norman, Geo. Wythes, A. H. Pearson, O. Thomas, and G. H. Maycock.

Messrs. WM. PAUL & SON, Waltham Cross Nurseries, Herts, exhibited a group of Apple trees in pots, remarkable alike for their healthy appearance and the weight of crop they bore. Especially good were Cox's Pomona, Emperor Alexander, Royal Jubilee, Gascoigne's Scarlet Seedling, Lane's Prince Albert, Blenheim Orange, and Cellini Pippin (Silver-gilt Knightian Medal).

Some excellent Grapes were shown by Lady TATE, Streatham Common, London (gr., Mr. W. Howe). There were twelve exquisitely coloured bunches of Black Alicante, weighing together 48 lb., and they were cut from a Vine that has carried 100 bunches annually for the last twenty-five years. Eight good bunches of Muscat of Alexandria were shown, some of Gros Colmar, and two bunches of Chasselas Napoleon in characteristic condition (Silver-gilt Knightian Medal).

E. A. HAMBRO, Esq., Hayes Place, Kent (gr., Mr. W. Beales), showed ten bunches of Black Hamburg Grapes, the bunches large, and berries of middle size, colour and bloom excellent. They were the produce of Vines afforded cold Peach-house treatment, and were excellent specimens—a fact appropriately marked by the Committee's awarding the exhibitor a Silver Knightian Medal.

Mrs. SOPHIA MILLER, Maybeen, Marlow, showed Elderberry syrup, apparently a very nice liqueur. Two table-spoonfuls added to a tumbler of water makes an excellent drink for persons suffering from coughs and colds. The manufacture of the article seemed perfect. Elderberries are very abundant in the hedge-rows about Marlow, and Mrs. Miller is endeavouring to

interest the country-folk in their conversion into wine and syrups for sale. The profitable and thrifty practices of our forefathers in making fruit-wines are losing ground without anything more wholesome taking their places.

Messrs. DOBBIE & Co., Rothesay, N.B., showed Dobbie's large Red Shallot from bulbs planted in February. They were an excellent sample in shape and colour, not to be distinguished from those figured in the *Gardeners' Chronicle* last week. The firm likewise showed Dobbie's Dwarf Blood-red Cabbage, a small, spherical-headed variety of good colour throughout.

The so-called Strawberry-Raspberry, which is no hybrid but a distinct species (*Rubus rosæfolius*), a bright-red fruit 1 inch long and $\frac{3}{4}$ inch in diameter, was shown by Mrs. GLEADOW, 38, Ladbroke Grove, W.

Strawberry St. Joseph was shown by Mr. HARRIS, gr., Bucklebury Place, gathered from plants grown in the open border without protection.

Fruits of the Gordon Castle Plum was shown by Mr. C. WEBSTER, gr., Gordon Castle. It is an excellent variety for northern latitudes.

Awards.

Apple Middle Green.—The parentage of this new Apple is described by Mr. Seden as being Frogmore Prolific × Blenheim Orange. The fruits shown were scarcely so large as well-grown specimens of Cox's Orange Pippin, nearly round in shape, slightly higher on one side. The skin is very smooth and yellow in colour, except upon one side, which is streaked with red, in much the same manner as the colour appears on Cox's Orange Pippin. The eye is closed, or nearly so, and inserted in very slight depression channelled on one side; segments small. The stem is rather less than an inch long, inserted in a deep and wide basin-like cavity, the interior of which is bright green colour. The flesh is soft, and the variety may prove to be of good quality for dessert purposes. Shown by Messrs. JAMES VEITCH & SONS (Award of Merit).

Melon Barnes' Fiscal Problem.—We were very favourably impressed with this new seedling Melon exhibited by A. F. WALTER, Esq., Bearwood, Wokingham (gr., Mr. W. Barnes). The fruits were of average size, nearly round, exterior yellow in colour, and much netted. The flesh is scarlet in colour and of good depth, juicy, and of rich flavour. Rarely have we tasted a better Melon in the middle of October than this one; but we protest against the inappropriateness of the name, failing to see any connection whatever between the "Fiscal" question and the enjoyment of a good Melon (Award of Merit).

MISCELLANEOUS.

The LUBROSE PAINT CO. (C. T. Drury, Manager), Moorgate Station Chambers, London, E.C., showed paints of colour suitable for horticultural work, for which no priming is needed.

Autumn-fruiting Raspberries and Strawberries.

At the afternoon meeting a paper on this subject was read by Mr. A. H. PEARSON, in the absence through illness of the writer, Mr. JAS. HUDSON, Gunnersbury House Gardens.

There was a remarkable absence of ceremony at this meeting, Mr. Pearson having officiated as secretary, chairman, and lecturer. Such neglect of their functions by members of the Council and others is not likely to increase the importance of the lectures in the eyes of the audience, and it is certainly most uncomplimentary to the gentlemen invited to contribute papers.

Mentioning RASPBERRIES first, Mr. Hudson said that they should be planted in as open a spot as possible, where every ray of autumn sunshine may reach them, as in an aspect which faces the south or south-west. The soil should not be too heavy and retentive in character. Let the rows be planted at distances of 6 feet apart, and stretch from north to south, and the stools be 4 feet distant from each other in the row. At the end of the autumn the ground is mulched with farmyard manure, which is subsequently forked in. On particular soils where it may seem desirable, every alternate year a dressing of lime might be afforded in place of the manure. At the time of forking over the ground the suckers should be removed from the Raspberries. The necessary pruning consists in cutting the canes down nearly to the ground level, and this should be done in the middle of March. It was well to replant the canes every second or third year, or treat a third part of the stock each year, thoroughly trenching the soil and adding what manure is necessary before planting new stools. Mr. Hudson pro-

ceeded to explain his method of training the canes to a light trellis made of Bamboos. Not more canes should be tied in than there is ample room for, it being necessary that the fruits should be exposed to the sun's rays. The first fruits should ripen early in September, and the supply might be expected to last until the end of October.

In 1902 Mr. Hudson gathered fruits as late as the middle of November. If birds were troublesome it was recommended that the entire ground should be covered with netting having a 1 inch square mesh, which was superior for the purpose than old fish netting. An extra net thrown over the first one would protect the fruits from frosts that would otherwise prove hurtful.

The present supply of autumn STRAWBERRIES, said Mr. Hudson, was furnished by the alpine varieties, the so-called perpetual fruiting varieties, e.g., St. Joseph, and by plants of ordinary varieties which were forced early in the year and then planted out-of-doors to yield a second crop several months later. The lecturer's principal point about the alpine Strawberries was that they should not be propagated by runners, but by sowing seeds every spring after the middle of March. His practice was to sow the seeds in shallow boxes filled with a light and friable compost. They were put into a house or pit in which the atmospheric temperature was about 55° to 65°. When large enough the seedlings were pricked off into similar boxes, but care was taken to plant them thinly, so that subsequently each plant might be lifted with a considerable "ball" of roots attached. In July they were planted into a warm border, and removed in October to a position in which they were to fruit the following year. They should be planted firmly, and in the event of severe frosts any that become loosened should be made firm. The following season early flowers might be removed until the third week in July, when half of those appearing should be permitted to bear fruit. At Gunnersbury about 1,000 plants were raised each year.

The perpetual-fruiting varieties should be planted on a warm border, and the early flowers should be picked off. These varieties are grown in pots as well as in the open ground at Gunnersbury in order to prolong the supply.

The forced plants that were planted out at Gunnersbury this season commenced to ripen their second crop in August. Mr. Hudson exhibited fruits at the first August meeting of the Society's Committees. Such plants were obtained from the batch growing in 5 inch pots, and that ripened their first crop in the middle of April. The practice of utilising these early-forced plants was well worth the trouble; and if, for some reason, they should fail to fruit that autumn, they would bear a heavy crop the following season.

New Vegetables and Fruits at Chiswick.

Awards of Merit were recommended by the Fruit and Vegetable Committee to the following varieties of vegetables and fruits shown recently at Chiswick:—

Lettuce Lord Kitchener.—A solid Cabbage variety of the All-the-Year-Round type.

Lettuce Staghorn.—A very pretty cut-leaved variety with a solid heart. Both from Messrs. DICKSON & ROBINSON, Manchester.

Strawberry The Roydon.—From Major-General ANDERSON, Camberley, Surrey. A late-fruiting variety of deep crimson colour, of fine flavour and large size.

Melon Marquis Favourite.—From Mr. METCALFE, Burghley. A handsome roundish-oval fruit of pale colour, well netted, and very deep whitish flesh of excellent flavour.

Carrot Veitch's Intermediate.—From Messrs. R. VEITCH & SON, Exeter. A very fine form of this popular variety.

Celery Pink Plume.—A pink form of White Plume. From Messrs. R. VEITCH & SON.

THE HORTICULTURAL CLUB.

OCTOBER 13.—The usual monthly meetings of this Club at the Hotel Windsor on the above date were resumed after the customary vacation interval, and subsequently to the house dinner, under the presidency of Mr. Harry J. Veitch, a most interesting lecture was given by Mr. Charles E. Pearson, entitled "Birds'-nesting in Russian Lapland." The lecture was illustrated by a large number of beautiful lantern slides prepared from photographs of birds' nests, of eggs of many kinds taken *in situ*, and views of the scenery within the Arctic Circle, plus a number of native plants and flowers. Clutches of eggs of a great number of birds were shown exactly as they were found, the photographs being taken from above, thus affording a full

view, and it was really marvellous to note in many cases how the seemingly capricious blotchings and markings of the eggs masked them from prying eyes owing to their consequent close imitation of their surroundings. In some cases, too, it was difficult to dispel the idea that the birds had not also selected a site amid rounded pebbles of similar outline and colour to the eggs in order to aid this masking, so exactly did they resemble each other. Eggs and nests—the latter in many cases being practically non-existent, the eggs lying among bare stones—were shown of the Buzzard, Redwing, Eagle, Gulls, Eider Duck, wild Swan, Oyster-catcher, Dotterel, and many others, each being accompanied by a vivid description of the habits of the birds and the various adventures which attended the discovery of the carefully hidden eggs. Hours of motionless waiting accompanied by myriads of industrious mosquitoes working their sweet will on every exposed portion of the skin were sometimes needed ere the disturbed mother-bird would settle down on the otherwise undiscoverable nest. Long leagues of difficult travel over several feet of treacherous snow preluded many of the discoveries, and in this latter connection a laughable description was given of the difficulty of bargaining with a rapacious Jehu by the mediation first of an interpreter who translated the English into Norwegian, then another who did the Norsk into Finnish, and finally a Finn who knew some Russian, no little speculation resulting as to the form in which the original remarks reached their destination. Some of the photographs gave a clear idea of the marvellous rapidity of arctic vegetation during the brief summer; a dense and robust mass of *Caltha palustris*, the Marsh Marigold, was for instance shown in full flower on a spot which three weeks previously was deep in snow, and only fifteen days before had been observed as just evidencing growth. Barley is stated to be ripe within thirteen weeks of sowing. This the lecturer imputed to the long and continuous daylight; and a relative photograph showed the midnight sun fairly high in the sky.

Some lovely specimens of *Myosotis alpestris*, *Silene acaulis*, Bog cotton, and other flowers and plants evidenced also the beauty of the Arctic flora as well as its rapidity of development.

TRADE NOTICE.

HARDACRE & PALMER, LIMITED.—The above-named company has been registered with a capital of £2,000 in £1 shares. Object, to adopt an agreement with G. H. Hardacre and E. Palmer to acquire the business carried on at Manchester as Hardacre & Palmer, and to carry on the business of bulb merchants and growers, vegetable, garden, flower and agricultural seed merchants and growers, cultivators of and dealers in plants, herbs, roots, shrubs, trees, &c. No initial public issue. The first directors (to number not less than two nor more than seven) are G. H. Hardacre, E. Palmer and J. P. Mallalieu. Registered office: 6, John Dalton Street, Manchester.

ANSWERS TO CORRESPONDENTS.

ABNORMAL GROWTH ON HOLLYHOCK: E. N. I cannot explain abnormal development on the Hollyhock; can find no trace of insects or fungus. Certainly not the same as the "Potato tumour," as the latter has a distinct development, with spores, &c. "Potato tumour" has appeared recently in several localities. M. C. C. [We believe the mass to consist of adventitious buds. Ed.]

BEECHBARK: J. Browett. Not a fungus but an insect—the common *Adelges fagi*. If the tree is of small size paraffine or petroleum emulsion might be used to destroy the insects.

BEETLE ON VINE ROOTS: W. V. S. The grubs are those of a weevil, which is very destructive. Trap them with slices of Carrot or Potato, and go into the house at night with a lantern and immolate the grubs and the beetles.

BEGONIA: F. W. The disfigurement is due to the work of mites (*Tarsonymus*), but is known commonly as "Rust." Dust the underside of the leaves with tobacco powder, or dip the plants into weak tobacco-water, say $\frac{1}{2}$ a pint of it in 1 gallon of rain-water.

BEGONIA: R. T. We are unable to name the variety; it is evidently a good one.

CHEYSANTHEMUM MRS. J. WOOD: J. W. The specimens received are not good ones, being much faded, but they are of exhibition size and have broad florets, and the colour is attractive.

CONING OF DEODAR: Correspondent. This is certainly an uncommon occurrence, but we have seen a cone on one of the Kew trees, and one from Dropmore was figured in our columns, October 10, 1891, p. 423.

CORRECTION: "VICTORIA REGIA," p. 257, *Gardeners' Chronicle*, Oct. 10, for Sept. 30 read Sept. 20.

CYCLAMENS: W. F. H. The grubs are those of a weevil. Trap them with slices of Carrot.

FIG: M. E. F. On examination, we find the flowers are entirely stamen-bearing, or male. You have, in fact, a barren Fig-tree. The female Figs may ripen even though they do not produce fertile seeds. Sometimes in a propitious season the male Fig may produce female blossoms also.

FUNGUS: Omega. Not a Lichen but a fungus called *Stereum purpureum*. The puff ball is *Lycoperdon perlatum*.

INSECTS SWARMING ON WILLOW: E. W. D. *Melanoxanthus salicis* (Linn.) is the name of the insect. It is one of the largest of the plant-lice, but apparently a local species. These insects live upon the juices of the plants which they pump or suck up through their long rostrums, thereby causing injury to the tree. The flies that you saw frequenting the same tree were evidently attracted by the honey-dew secreted by the aphides.

KITCHEN GARDEN OF HEAVY CLAYEY SOIL: A. A. The best mode of setting to work would be to double dig the land, burying the top spit beneath that which forms the lower one. Having done this start fires with small coals and wood, and when well alight, place 2 or 3 inches of the soil mixed with small coal gradually over the heaps till these reach a height of 4 to 5 feet, with a base of 6 feet. These heaps may stand 12 to 15 feet apart. They should smoulder for several weeks, and will need attention from time to time so as to let combustion go on gradually and without causing the flaming of the material. The object is to char the clay, not to burn it. The contents of the heaps may be intimately incorporated with the staple, which they will lighten and render more workable than hitherto. The original upper stratum, containing as it does certain elements of fertility, should not be charred.

LETTER: J. Morris. Your letter has been sent to the address, as desired.

MICHAELMAS DAISIES: Salisbury, and A. F. We cannot undertake to name varieties of Michaelmas Daisies.

NAMES OF FRUITS: F. Bennett. 1, New Hawthornden; 2, Baldwin; 3, Cox's Pomona.—P. S. 1, Grange's Pearmain; 2, not recognised.—F. J. 1, Summer Golden Pippin; 2, Royal Red Streak.—T. W. 1, Golden Noble; 2, Cullen.—J. C. Wheeler. 1, Jolly Beggar; 2, Cox's Pomona.—G. E. H. C. Worcester Pearmain.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—A. G. I. 1, *Datura Stramonium*, poisonous; 2, *Andromeda calyculata*; 3, *Cotoneaster Simonsi*; 4, *Tradescantia virginica*; 5, *Spiraea callosa*, white variety; 6, *Curculigo recurvata*.—S. J. 6, a variety of the common Laurel Cherry, *Prunus Lauro-cerasus*. We cannot undertake to name the varieties of Michaelmas Daisy.—F. J. 3, *Escallonia rubra*; 4, a garden form of *Potentilla*. See Apples under "Names of Fruits."—J. B. 1, an *Asclepiad* or *Apocynad*, we cannot tell from the leaf only; 2, *Salvia splendens*.—Avenue. *Stachys lanata*, quite hardy in Britain.—W. B. K. 1, practically a pale form of *Cypripedium* × *Dauthieri*; 2, *Cypripedium* × *selligerum* (*barbatum* × *philipinense*); 3, *Cassia corymbosa*.—E. C. C. D. *Phytolacca decandra*. It is good as food for pheasants, but not for human consumption.—W. H. 1 appears to be *Doodia blechnoides*. The dry, imperfect fronds of the others are insufficient for us to venture to name.—F. C. L. 1, send when in flower; 2, *Dendrobium linguaeforme* (Australian); 3, *Bulbophyllum exiguum*; if Australian there are no flowers.

There are several Indian species of similar growth. If known to be Indian send when in flower; 4, *Niphobolus rupestris*, commonly included under *Polypodium*.—*Odont.* M. P. 1, *Maxillaria picta*; 2, *Cymbidium giganteum*; 3, *Odontoglossum crispum*, a very fine form; 4, *Kochia scoparia*.—F. E. G. 1, *Nephrolepis pectinata*; 2, *Blechnum polypodioides*; 3, *Davallia Tyermanni*; 4, *D. canariensis*; 5, *D. Mariesi*. The two last are imperfect specimens. The last-named is the Japanese form of *D. bullata*, used in making the Fern-balls and other objects sent from Japan.—*Thos.* A. 1, *Escallonia rubra*; 2, *Erica carnea*; 3, *Pyrethrum serotinum*. We have not before seen *Impatiens Sultani* of this particular shade of rose. It is very pretty.

PRIVET AND SHEEP: J. C. We should regard the plant as suspicious, but have no positive knowledge in regard to its poisonous properties. The juice of the berries, it is said, has been used for colouring port-wine of a poor colour, and some birds eat them with impunity. The leaves contain tannin. Are there Yew-trees within reach of the sheep, or is *Colchicum* growing in the field, or in that from which hay may have been cut?

ROSES: G. H. We can find no disease. Probable result of the climatic conditions.

TACSONIA: F. W. This is truly a case of "found dead." There is nothing whatever in the specimens sent to indicate cause of death, but we may say there is no evidence of fungoid disease. The loss may be due to errors in affording water, or in the use of manures.

THLADIANTHA DUBIA: F. L. It is a Cucurbit, native of China. The specific name has reference to the unisexual character of the flower. It is probably best to treat it as an annual, sowing the seeds in heat in January, and affording the plants the same kind of treatment as Melons. The fruit is dull red in colour. See fig. in *Gardeners' Chronicle* for October 13, 1900.

TRADESCANTIA WITH PALE GREEN GROUND COLOUR AND SNOW-WHITE VARIATION: W. D. T. *vittata alba*.

TRANSPORT OF MARRIED GARDENER, FAMILY, AND FURNITURE: Inquirer. It is customary for the employer to pay a part or the whole of the cost of transport to the place.

VEGETABLES, POINTING OF FOUR KINDS: Hawthorpe. The following are the point value attached by the Royal Horticultural Society to the kinds which you name, viz.:—Onions, 7; Beetroot, 7; Carrots, 5; Parsnips, 5; Potatoes, 7; Globe Artichokes, 5; Jerusalem ditto, 4. A better seasonable list would be Onions, Potatoes, Cauliflowers or Broccoli, 7; Celery, 7; Leeks, 6; that is four dishes, if Leeks be knocked out, of 28 total points, against 26 points in the list which you give.

VINE SHOOTS DISEASED: J. E. The diseased appearance of the twigs does not at present appear to be serious, but sulphur is of no use. Try spraying with Bordeaux-mixture. Probably only an immature state of a fungus of the *Phoma* kind, but at present there are no spores. Please send again later on when it is more developed, unless it goes off. M. C. C.

COMMUNICATIONS RECEIVED.—E. K. Budde, Ulrecht—Herbert Slater—E. B.—G. T.—W. C. W.—D. R. W.—R. W. H.—J. C. & Co.—W. N. & Co.—West, Newman & Co.—E. V. B.—J. A. H.—A. W. G., next week—A. D. H., 4s. received for Gardeners' Orphan Fund with thanks—H. A. L., next week—Leslie Powell & Rogers—D. B., it was delayed on account of its length—J. E., Ceylon—W. R. & Son—J. C. & Co.—Lady B.—A. W. G.—T. W. C.—E. B., Erfurt—J. W.—F. C.—A. B., La Mortola—F. C. H., Erfurt—A. C. Seward—A. Scalarandis, Turin.—Secretary of Ipswich and E. of England Horticultural Society—J. C.—G. Staggs—W. W.—F. E. G.—J. B.—W. G. D.—Constant Reader—J. G. B.—A. B. R.—R. W.—G. Shawyer—F. M. C. C. (thanks, donation to R. G. O. F.)—R. P.—R. B.—Z. A.—G. H. S.—J. H. W.—A. C.—Rev. S. W. M.—F. W. M.—R. J.—G. F.—A. J. H.—Gardener—O. Werner—J. E.—S. Popplewell—S. W. F.—J. O. B.—A. Fellow—J. K.—C. S. F.—R. N.—Dr. E. B.—W. P. R.—F. E. W.—H. J. C.—G. Woodward—R. P.—J. P. F. W. C.—E. Webb & Sons—A. W. J. (4s. received for R. G. O. F., next week).



VIEWS IN THE GARDENS, SHIPLAKE COURT, OXON.

THE

Gardeners' Chronicle

No. 878.—SATURDAY, OCT. 24, 1903.

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VERSAILLES

IS in a degree a town of horticulture and a centre of horticulturists. Here, too, is situated the National School of Horticulture, which, with its large, well-ordered garden, its staff of learned professors and distinguished practitioners, is calculated to throw the English visitor into the depths of humiliation. We can see here what Chiswick should have been, what it is to be feared Wisley never will be. But then this is a Government establishment, so that the comparison is not a fair one; but however odious the comparison may be, the sense of humiliation does not disappear. The garden is large—as large, we suppose, as Chiswick used to be in the old times before it was curtailed. There are vineries and Peach-houses, and Strawberry-houses, Palm-houses, pits and conservatories, every appliance for studying and for teaching every department of horticulture, including what we might easily have had at Chiswick, and what we may still hope for at Wisley—a *laboratoire de recherches horticoles*. A Frenchman would say that we made a great mistake in saying that arboriculture is not practised here; for with *himarboriculture* is mainly the culture of fruit-trees, and here they are in profusion, pyramids, espaliers, cordons oblique, cordons erect

cordons simple, cordons branched; indeed the garden contains, or seems to contain, all the infinite variety of training which the ingenuity of French gardeners has devised. Beautiful specimens of their art indeed they are; but it is questionable whether either the quantity or the quality of the fruit produced is commensurate with the amount of skilled labour expended on the trees. That is a question we should like to see discussed. We have an idea that our less elaborate systems are for practical purposes equally efficacious. This year, as in England, fruit is very scarce; Pears were scarcely to be seen; but there was a small crop of noble Apples, noble in size and colouring.

Amongst the Roses, Zéphirine Drouhin amply justifies the eulogiums lately passed on it in our columns. We cannot, of course, attempt to give a detailed account of this garden, which is truly a model one, and is in excellent order so far as a hasty inspection permitted us to judge.

Its object is to train young men in the practice of horticulture, and to fit them to occupy hereafter situations as chiefs of botanic gardens, colonial experiment stations, nurseries, or private establishments, foremen, seedsmen, landscape gardeners, stewards, &c.; and to this end a practical training extending over three years is associated with instruction in those branches of science which are of primary importance to horticulture and agriculture.

Some of the nurserymen to whom we spoke seemed to think that too much attention was paid to scientific or, as they called it, theoretical matters; but then they not unnaturally looked upon the matter from the point of view of pure routine—an excellent standpoint, no doubt, so far as existing circumstances and requirements are concerned, but which, in the interests of future progress and advancement, demands to be widely extended and varied, so as to secure the benefits which ordered knowledge is capable of affording. *The Rambler*, Sept. 21.

KEW NOTES.

LONICERA ETRUSCA SUPERBA.—In the Himalayan wing of the Temperate House at Kew there is a very vigorous-growing, free-flowering Honeysuckle, which all through the summer and autumn for the last three years has been a great attraction. It grows very rapidly, forming shoots 6 to 10 feet long in the season, and these become ropes of yellow flowers. It is one of the very best summer-flowering climbers for a cool house that I know, and as it is easily propagated from cuttings it should become as common in green-houses as Bougainvillea is in stoves. When this plant first revealed its full beauty we were disposed to question the accuracy of its name, *L. etrusca* being an old botanic garden plant with no particular claims to beauty. "Flowers orange-yellow, capitate; heads pedunculate; upper leaves connate, young ones hairy. A native of the South of Europe, flowering in May, though not so freely as some." This was Hemsley's description of *L. etrusca*, thirty years ago. But the plant under notice has axillary clusters of flowers extending as much as 8 feet along a shoot, and, as has already been stated, it is in flower at Kew fully half the year. This prolonged season of flowering is probably due to the glasshouse conditions, as a second plant in the open air at Kew does not flower freely, although it grows well. The first record I have

found of this *Lonicera* is in the *Revue Horticole*, 1882, p. 558, where it is described as *L. gigantea*. It was subsequently distributed by Continental nurserymen as *L. gigantea superba* and *Caprifolium giganteum*. I have also heard of its being called *L. Charlotti*. Botanically it cannot be separated from *L. etrusca*, but for garden purposes it is certainly much better than what is known by that name. The Kew plant is planted out in a border of soil suitable for Rhododendrons. Although only about four years old it has a stem fully 2 inches in diameter.

DYSCHORISTE HILDEBRANDTII.

This little free-flowering shrub belongs to a genus little known in gardens, although there are some sixty species known in tropical countries. It is related to *Lanckesteria elegans* of *Botanical Magazine*, t. 5533, a favourite still among the few cultivators interested in tropical Acanthaceæ. *D. Hildebrandtii* has recently been introduced to Kew from British Central Africa, the home of *Coleus thyrsoideus*; and it is now represented by a little group of pot-shrubs a foot high, clothed with silvery, hairy, elliptic leaves an inch long, and axillary purple-blue flowers as long as the leaves. The plant is distinct and pleasing to the eye, but its most noteworthy characteristic is its penetrating odour, suggesting a mixture of Patchouly and fox. Some would no doubt call it disagreeable, as I do Patchouly, but others like it. The plant is worth a place among autumn and winter-flowering warm-house shrubs.

A JAPANESE CURIO.

An interesting dwarfed specimen of *Trachelospermum jasminoides*, better known as *Rhynchospermum*, has been presented to Kew by H.S.H. Prince Louis of Battenburg, Director of the Naval Intelligence Department, to whom it was presented as a special mark of favour by a Japanese admiral. It is said to be 200 years old, and the stem certainly looks about that age. We have still to learn the process by which a plant of this character, which naturally makes long thin shoots, can be kept in a cramped, stunted condition, never making a shoot 3 inches long, whilst every leaf has the appearance of having been "cribbed, cabined, and confined." The plant may be seen in the T Range, by the side of three very fine examples of dwarfed Japanese *Cupressus obtusa*. W. W.

ORCHID NOTES AND GLEANINGS.

CATTLEYA × MRS. J. W. WHITELEY.

WE have in this handsome hybrid variety a cross between *C. Bowringiana* and *C. × Hardyana Massaiana*, and similarly to others of the section to which it belongs, it varies considerably in the colour and the quality of the flowers. Several have bloomed lately which show little difference from *C. × Mantinii*, and occasionally one will appear in which the yellow marking on the lip is not very pronounced. Probably the finest specimen and finest variety which has as yet appeared is now at the present time in flower at Clare Lawn, East Sheen. The plant bears ten large flowers, whose sepals and petals are of a rosy-purple tint, with broad labellum and disc of a rich orange colour, and the front of a ruby-purple, of velvety texture. It is one of the finest of the autumn-flowering *C. Bowringiana* section.

DENDROBIUM CÆLOGYNE.

A flower and growth of this singular *Dendrobium*, which is occasionally classed with *Bulbophyllum* in gardens, is sent by Mr. John Cowan, Gateracre Nurseries, near Liverpool. The growth of the plant, with its ovate slightly angled pseudobulbs bearing two leathery leaves notched at the apex, much resembles some of the *Cælogynes*, and

the flowers produced from the tops of the pseudo-bulbs also are suggestive of that genus. In colour they are greenish-yellow, spotted and striped with dull purple; the front of the lip

ODONTOGLOSSUM × CRISPO-HARRYANUM
BRUGENSIS.

A flower of a beautiful new variety of this name has been sent for our inspection from their

more nearly the best type of spotted *O. crispum*, with the large size, firm substance, and broad shield-shaped lip of the other parent. In the rich colouring of the flower, however, lies the chief attraction. The flower is $4\frac{1}{2}$ inches across, cream-white tinged with rose-purple, especially on the reverse side. The sepals have broad bands and blotches of dark rose-purple, and the petals are nearly covered with similar markings arranged in a cluster in the centre of each, with a marginal band of a redder tint. The crest is yellow, the blade of the lip white decorated with some large purple blotches, and innumerable smaller ones on the basal half. Among the larger blotches are occasional clusters of reddish-violet spots, and the base of the lip and back of the column has a few red markings. In this case the fine qualities of the parents are well seen in the offspring. James O'Brien.

CORIARIAS.

HALF-A-DOZEN species belonging to this genus appear to have been at one time or another introduced to this country. The genus is widely spread, and cultivated species have come from such widely separate regions as South Europe, Peru, the Indo-Chinese region, and New Zealand. They are mostly shrubby or semi-herbaceous in habit, and are chiefly remarkable for their fruits, which are red, yellow, or black. A curious feature is the persistence of the petals, which become fleshy, and ultimately enclose the seed-vessels. It is, indeed, these thick coloured petals that one alludes to in speaking of the beauty of *Coriaria* "fruits." They are well shown in the illustration at fig. 119.

C. terminalis.—For many years this species was confounded with *Coriaria nepalensis*, and it was not until 1894 that Mr. W. B. Hemsley noted its distinctness and described it under the above name in the *Icones Plantarum*, t. 2220. It appears to have first been collected by Sir Joseph Hooker in Sikkim during his famous Himalayan travels, but more recently it has been received from West Szechuen in China. It is a herbaceous plant 2 to 3 feet high, with ovate leaves 1 to 3 inches long and usually seven-nerved. The flowers are borne on a terminal raceme about 6 inches long, and this character distinguishes it from all other *Coriarias* (which have axillary racemes). The flowers are yellow, but the plant is more ornamental in the fruiting state, as may be judged from the illustration at fig. 119, the fruits being a pale clear yellow. Our figure was prepared from specimens sent to the Drill Hall by Messrs. R. Veitch & Son, of Exeter. It flowers and fruits at Kew on the rockery, and so far has proved quite hardy there. I believe the species was first cultivated in Europe by Mr. Max Leichtlin at Baden-Baden, and was distributed by him about 1897.

C. japonica was introduced to Kew about eleven years ago from Japan through the agency of Professor Sargent. Since then it has been cultivated in various English gardens, notably in that of Canon Ellacombe at Bitton, where, in 1896, it fruited, and was figured in the *Botanical Magazine*, t. 7509. It is a low shrub, apt to be cut back in severe winters, but still hardy. Its leaves are 3-nerved, narrow-ovate and pointed, and 2 inches or more long. The fruits are bright coral-red, and when crowded on the short racemes at each node all along the stems, it becomes one of the prettiest and most striking of our dwarf shrubs. As the species can be increased by cuttings as well as by seeds, there is no reason why it should not become more common than it is at present.

C. myrtifolia.—This is the commonest and best known of *Coriarias*, and has, indeed, been cultivated for upwards of 300 years. So far as I have seen, however, it has little to commend it except



FIG. 119.—CORIARIA TERMINALIS: FRUITS PALE YELLOW.

being blackish-purple. It is a native of Burma, and thrives well in a cool intermediate house, grown like *Cœlogyne cristata*. It was illustrated in the *Gardeners' Chronicle*, November 27, 1897, page 387.

Bruges nursery by Messrs. Sander & Sons. The parents of the cross were the best procurable *Odontoglossum Harryanum*, and a finely spotted *O. crispum* heavily tinged with purple. The result is very satisfactory, the flower resembling

the pleasant glaucous-green of its leaves, and its graceful habit. It is a South European plant, and in some of the countries bordering the Mediterranean is more of a weed than anything else. In hard winters it is killed near London. At Kew it becomes 4 feet or so high, and towards the end of the summer grows luxuriantly, and is then a handsome plant; but it is frequently late in starting into growth. I have not seen it in fruit.

C. nepalensis is a shrub, and, trained on one of the pillars in the Himalayan-house at Kew, is 12 feet high. It makes sturdy shoots each year, 2 feet or 3 feet long, and besides its shrubby habit, its three-nerved leaves readily distinguish it from *C. terminalis*. The flowers appear on racemes in the leaf-axils, and are followed by

A HOUSE OF FINE CUCUMBERS.

We have afforded our readers illustrations of Cucumber-plants bearing fruits in prodigious numbers before this, but those which we now illustrate (fig. 120) exceed all previous ones in the abundance of the crop. The variety in the present instance is named by the growers (Messrs. A. A. Walters & Son, of the Kensington Nurseries, Bath) a selection of the well-proved Telegraph. It may be stated that the Cucumbers are grown for seeding purposes, the firm selling to one or two wholesale houses; hence the enormous number of fruits observed on the plants.

The photograph from which our illustration was prepared was taken by an amateur artist, and is a creditable specimen of his work.

what will be needed to make Wisley into a real garden. Some £3000 should be spent in erecting superintendent's, foreman's, labourers', and students' residences, stabling, sheds, stores, fences, including walls, &c. Another £3,000 is needed to be spent in the erection of good glass-houses, pits, frames, and in all the concomitants of house-culture. To that sum later another £2,000 will have probably to be added. On windward and cold sides tree shelters must be planted. Also improved approaches must be made. Good gravel roads and footpaths must be formed; trees, bushes, and plants in general must be obtained to furnish the gardens, and as a preliminary the whole area outside the wild garden needs to be deeply worked, trenched, and manured so as to fit it at the outset for the



FIG. 120.—CROP OF SEEDING CUCUMBERS IN THE KENSINGTON NURSERIES, BATH.

black fruits. It is fairly hardy in the London district, but does not reach the dimensions out-of-doors that it does when protected from frost.

C. thymifolia.—This rarely-seen South American species has little or no horticultural value. It is of interest, however, from an economical point of view, as yielding an ink which remains legible after immersion in sea-water. It is a dwarf plant with small leaves, and requires to be kept in a cool greenhouse.

There is no difficulty in cultivating any of the *Coriarias*, provided the temperature is suitable. They all thrive in a moist, loamy soil. *W. J. B.*

THE USE OF COLZA OIL AGAINST THE TURNIP FLEA.—A correspondent of *Die Gartenwelt* recommends the practice of smearing colza-oil on dinner plates as a means of catching the Turnip flea. In a trial that he had made a considerable number of the insects were caught and held fast.

THE WISLEY GARDEN.

THE statement of the Secretary of the Royal Horticultural Society that the development of the estate at Wisley, now largely a bare field, must be done through outside aid, as not a penny of the Society's invested capital would be touched for such a purpose, rather leads to the inference that the Council is not so jubilant over the possession of the garden as would seem on the surface to be the case. In appealing for £5,000 to enable provision to be made at Wisley for the Society's requirements, no mention was made of the £5,000 it was assumed would be paid to the Society when the lease of Chiswick gardens was given up. Is that sum still to be paid, and if so, how is it to be disposed of? If that sum and another £5,000, raised in some way, be expended on Wisley, something may be done towards making the open field there a garden worthy of the Royal Horticultural Society. But the Council may as well face the fact at once that the sum of £10,000 will do but little of

purpose for which it was given to the Society, and for which the Council presumably purposes to apply it, or otherwise it would hardly have accepted it. Suppose this much-needed voluntary contribution of £5,000 be not forthcoming, nor the £15,000 still wanted for the new Hall, how is the new garden to be furnished at all to make it what it should be? And if this cannot be done, then the garden will be an incumbrance. Does the Council propose to continue the admission of students at Wisley as at Chiswick, and if so, how are they to be housed, and what provision of a scientific nature is to be furnished? All these requirements would absorb probably another £1,000. If the Council are trusting to get outside help in the shape of students' grants, or securing any technical co-operation from public bodies, all pleasant enough no doubt to think upon, but most uncertain for reliance, that would to some extent entail a sort of dual control which would soon become intolerable, or might lead to speedy dissolution.

Obviously, if the gardens are to be those of the

Society, they must be under the complete control of the Council. Equally obviously, if the gardens are to be worthy of the Royal Horticultural Society, they must be furnished throughout to the fullest requirements, by which not only practical horticulture in the widest sense can be both taught and practised, but also there must be ample provision for instruction and for research and investigation in those scientific elements which are essentially allied to horticulture. Wisley lies remote from populous places, and at present is difficult as well as costly of access. It should be the aim of the Council to secure for its Fellows or visitors to Wisley cheaper conveyance, and seek to present in its gardens such first-class features that they should attract those Fellows and visitors by thousands. A poor garden will be worthless. *A Fellow.*

NURSERY NOTES.

MESSRS. LADHAMS, SOUTHAMPTON.

Those who have attended the various shows held in the South will have had their attention arrested by the exhibits of hardy flowers staged at exhibitions by Messrs. Ladhams, Ltd., of the Shirley Nurseries, Southampton. The nursery is situated at Rownhams, two miles distant from the Shirley tram terminus, and occupies about 90 acres, a little over one-third of this area being devoted entirely to herbaceous and hardy flowering plants, and much of the remainder to general nursery stock, including several acres of Roses, a large proportion budded this season. The soil is a strong stony loam resting on a bed of blue clay of great thickness, so thick that a well sunk to a depth of 150 feet failed to pierce it.

On approaching the nursery the visitor is struck by the large masses of bloom, and more especially (for this time of year) the beds of Pinks in full bloom. About an acre or so is occupied by these plants, comprising between thirty and forty varieties, mostly raised at this nursery. Mr. Ladhams, sen., whose interest in Pinks is well known, is now giving much attention to the new perpetual-flowering varieties. Of the newer ones, Marion most took my attention; a large bed of these were a sight worth seeing, so thickly placed were the flowers and buds, reminding one of June rather than of September. The colour is a deep pink without markings, and the plants are very robust. Amongst other perpetuals I noticed Florence, a superb white flower with a maroon centre; Mrs. Moulard, a smaller flower, but in many cases having five to six perfect blooms on a stalk, the calyx of which does not split. The colour is a warm pink with clear chocolate centre. Evelyn is another shapely white laced with pink, and said to be a "good doer."

Gaillardias are largely grown here, and nearly the whole of the 5,000 plants I saw in bloom have been raised at the nursery. The race is an improvement on the old grandiflora varieties, free from the coarse straggling habit, and having a great length of wiry upright flower-stalk, mostly with a second row of petals, and the distinctive brilliant centre of which Rownhams Queen is a type. Amongst the best my choice would be Sulphur Queen, certificated last year, having no zone; Shirley, a particularly good variety for cutting; B. Ladhams, and Yellow Gem, a pure golden-yellow.

Hybrids of *Lobelia siphilitica* and *L. cardinalis* are a speciality here. Amongst many hundreds in flower the following seemed desirable: Andrew Barton, rich purple; Purple King (Award of Merit last year); Magnificent, rich scarlet flowers; Elsie, pink; Royal Blue, Multiflora, salmon-red, with at least twenty spikes to a plant, and Crimson Velvet, richest colour of all, showing to advantage with its pale-green leaves. The whole strain is hardy,

some of the first crosses being six or seven years old, and never injured by frost.

Pentstemons are grown here in large masses, a very fine scarlet with clear white throat, yet unnamed, being particularly conspicuous, and I should think will prove a decided acquisition.

Phloxes, as in most places this season, were particularly showy, the large drifts showing up conspicuously even at considerable distance. Some seedling plants of *Helenium striatum* were interesting and varied. *Anemone japonica* Queen Elizabeth and Monte Rosa made a fine display; many new ones are here on trial. *Aster Amellus* is, of course, largely cultivated here; amongst others, Shirley seems a deeper and richer flower than the type.

Heliopsis are seen here in large masses, much the finest of the group being B. Ladhams, a very decided advance on H. major, which secured an Award of Merit for Mr. Ladhams last year.

Montbretias are also seen in very large masses, bed after bed in full bloom being passed.

Amongst a number of somewhat uncommon and striking plants I noticed *Hibiscus palustris*, the flowers being 4 to 5 inches across, clear glistening white, with distinct brilliant carmine centre; it was surprising to see such a number together when so few gardens contain this plant at all.

Specimens of the beautiful white Tree Lupin Snow Queen, raised by Mr. Ladhams, still had fine trusses, very sweetly scented, standing over its masses of foliage. Coreopsis, Polygonums, Rudbeckias, Helianthus, and some forty varieties of Michaelmas Daisies are grown in quantity, besides Alpine and rock plants and other interesting subjects. *C. S. F.*

THE WHITE ARUM AND ITS CULTIVATION.

UNTIL recently Richardias (or as they are sometimes called, Callas or Arum Lilies) were generally believed to be entirely free from any disease, but along with some of the Californian products came a scourge which upset many a promising batch. Different growers have their own peculiar ideas regarding the treatment of the plant, and it survives and flourishes under all of them. Some insist that a period of rest during the summer is an absolute necessity; others argue that, to ensure success, the plants must be planted outside in a damp and well-manured spot, and kept growing freely all summer. There are still others who aver that success can be attained only by shaking out the plants when their season of flowering is past, and repotting them immediately into clean pots, in fresh soil. They leave them outdoors all summer to take care of themselves, and by the fall the pots are full of roots again, and ready for a hard winter's work.

We have tried all these methods, and have even grown the plants in water all the summer, and so far we have been unable to decide which one of the various plans is the most successful.

If the bulbs (or, properly speaking, the rhizomes) be in a weak debilitated condition the planting-out process is to be recommended, otherwise either plan may be adopted, and success attained, provided other conditions are equally favourable.

If the rhizomes have not been attended to this season the sooner they are now looked to the better.

Each crown should be examined, and the numerous small buds that surround it should be rubbed out. If left alone they will gradually mature as individual crowns, and even this present season would produce leaves and, in many cases, small flowers. The principle of dis-budding here is identical with that pursued upon other plants—it concentrates the energy in the main crown and larger flowers result.

If it is desired to increase the stock, or if lots of small leaves are needed for mixing with the cut flowers a few may be left untouched. The flowers will be more numerous, but not quite as large.

If the rhizomes have not been potted up yet, no time should be lost; or, if they were potted up in small pots some time ago, they will now be greatly benefited by a larger shift. Many people still prefer to pot up three or four large crowns in an 8 or 10-inch pot. To this there is no objection, but if potted up singly in 6-inch pots they are much more convenient to handle, and furthermore, if there should be a bench—or part of a bench—in the Rose or Carnation-house that is too dark for either of those, Richardias may be planted in it, and good results obtained.

A rich soil is necessary; one composed of about three parts of good loam to one of well-rotted manure will suit, and when growth is active liberal supplies of liquid fertilizer should be given. The plants are gross feeders in the strictest sense.

As to temperature, from 45° to 55° will be about right, but if flowers are needed at any particular time a few degrees more will do no harm. The plants will thrive in a house fully exposed to the sun, but if you have a house—or part of a house—that does not get all the sun in winter that you wish for, they will also be quite at home there.

Once the plant is fully started never let it get dry; keep the drainage in good order, and there will be no fear of over-watering. Thrips, red-spider and green-fly are likely to attack the plants, but if they get a good syringing overhead every day, and the atmosphere is kept moist (as it should be), there will be no trouble from either.

Little Gem is a dwarf white which, in our opinion, is misnamed—at least we have been unable to find any gem-like qualities in it. There are always enough Little Gem sizes among the general collection; more than are wished for in most cases.

The spotted-leaved variety (albo-maculata) does well as a house or conservatory plant, and also does nicely around the edge of a pond or fountain, but does not flower so freely as the type.

The yellow Richardias are too expensive to be popular as yet, and we question if they will ever fill the place that the white ones have done. They are very beautiful just the same, and the yellow is so pronounced as to show its distinctive colour even under artificial light. They need a slightly higher temperature.

A recently-introduced plant, a hybrid from the yellow Calla, R. Elliottiana, and the last-named, was raised in New England, and was fully described in *American Gardening* for July 19, 1902, by Mr. Orpet. We have not grown it, but understand it is hardy and a fine flowerer, the patches being a pale yellow. *J. T. Scott, American Gardening, September 12, 1903.*

MARKET NOTES.

COVENT GARDEN MARKET.

It is usual to hear growers complain of dull trade, but I think that during the past few weeks the "grumble" has been quite justified. At closing time a few mornings ago many of the stands were still filled with pot plants, and cut flowers were as plentiful. Among pot plants Chrysanthemums were those most in demand. It is remarkable that really good stuff should be confined to so few stands. One grower, who does Soleil d'Octobre well, was making from 2s. 6d. to 3s. 6d. each for his best plants; 12s. to 18s. per dozen for useful plants appeared to be the average prices; of course there was a good deal of ordinary stuff sold at considerably less.



FIG. 121.—PINUS PINEA, 61 FEET HIGH, BLOWN DOWN BY GALE IN SEPTEMBER.

Begonia Gloire de Lorraine on several stands, some of the finest plants I have seen, were making 18s. per dozen; but it is yet too early for this to go freely; 8s. to 10s. per dozen was asked for good plants in 48's, but there was a good many remaining unsold. Of Heaths, *gracilis* is the only variety yet in in quantity. Cyclamen and Primulas are coming in, but they do not appear to be much in demand. The same may be said of Bouvardias and Marguerites. There will be little improvement in the plant trade until frost has cleared off outdoor flowers.

In cut flowers Chrysanthemums are the most conspicuous, and there has been a fair trade for these; the blooms of middle size command the greatest amount of attention. The early varieties that were disbudded made good prices. One grower, Mr. Sawyer, who has been sending about 300 dozen blooms to market daily, tells me that they have made from 1s. to 2s. 6d. per dozen blooms. I may mention that these were chiefly new varieties of his own raising. Elaine is still a favourite with the growers for market, and though generally coming in later, some good blooms have already been on sale. Goacher's Crimson seems likely to take the first place in its class; and Horace Martin is one of the best of the yellows. A. Hemsley.

LECTURES AT THE CHELSEA PHYSIC GARDEN.

(Continued from p. 274.)

Mr. A. D. HALL's second lecture on "The Composition of the Plant in Relation to the Soil," delivered on Tuesday last, dealt with the general development of the plant. During its first stage the plant is drawing nutriment from the soil, the leaves are assimilating the carbonic acid of the atmosphere, and storing carbohydrates in stem or root; then in the second stage the material previously stored is moved to the seed and other parts of the plant which serve for reproduction. In annuals the two stages are continuous; nutrition from the soil ceases first, but assimilation goes on almost up to the end of the migration process and the setting in of maturation. In other plants, e.g., biennials and many bulbous plants, there is an intervening resting stage.

somewhat low. In this way a dry winter is often followed by a heavy Wheat crop, which depends very much on obtaining a good foundation of root. Again, the later stages of development demand less water, maturation is brought about by a lessened water supply and changes of temperature, as may be seen in the way a gardener manages an orchard-house.

Light and heavy soils were then compared; the former were shown to be earlier and warmer by reason of their lower retentive power for water, but because of the comparatively violent fluctuations of temperature to which they are subject and their tendency to dry up, their produce often lacks quality and is soft and susceptible to disease. The higher water content of strong soils renders them less subject to change under the varying atmospheric conditions; growth is slower, more equable and more prolonged, generally with the result of higher quality, both in flowers and fruit. The next lecture will deal with the part played by the various mineral constituents drawn from the soil which are found in the ash of the plant, and the bearing of these results on the manuring of the plant.

THE OVERTHROW OF A FINE STONE PINE TREE.

In the gale on Thursday night, September 10, a fine specimen of *Pinus Pinea* (Stone Pine), in our Red Lodge Nursery here, was blown down. The total height was 61 feet; the diameter of the head 30 feet; the circumference of the trunk at 3 feet from the ground measured 8 feet 7 inches, and the trunk was clear of branches for 25 feet from the ground. The tree was about 75 years old. It was not in a particularly sheltered position, and was in a thoroughly healthy condition. W. H. Rogers & Son, Ltd., Red Lodge Nursery, Southampton. [The illustrations, figs. 121 and 122, show a ponderous round-headed tree with a clear bole resembling that of a Scots Pine. The average height of the tree in this country is 35 feet, with a spreading head in old specimens, but the tree depicted differed in build from those usually found in this country, in that the trunk was destitute of branches for so great a distance. Either as a young or mature specimen this species of Pine is distinctly orna-



FIG. 122.—PINUS PINEA OVERTURNED BY GALE IN THE RED LODGE NURSERY, SOUTHAMPTON.

mental and well adapted for planting in gardens in such positions as those in which the round-headed *Acacia inermis* and *A. Bessoniensis* are most suitable. The tree is of slow growth. Ed.]

SHIPLAKE COURT, HENLEY-ON-THAMES.

[SEE SUPPLEMENTARY ILLUSTRATION.]

(Concluded from p. 274.)

FROM the terrace in front of the house a view of Reading and the surrounding country is obtained; and the nearer views in the garden appear beautiful and varied, though throughout all the same free and natural treatment of the subjects used is evident. Thus the many climbing plants used on the terrace, beneath it, and in other parts of the garden are not closely trained, but allowed to grow naturally and in a manner which admits of their displaying themselves best. Climbing Roses, Honeysuckles, Clematis and other showy climbers abound, and in the clumps of flowering shrubs the white and coloured varieties of *Rosa rugosa* and other single or semi-double species of Rose, *Buddleia globosa* supporting purple Clematis, and other combinations of shrub and climber are fine objects.

Flower gardening with what are called "bedding plants" is restricted almost to the vanishing-point, only one small design, used for spring bulbs earlier in the season and now showy with Pelargoniums, being arranged. But good use is made of the best varieties of Ivy-leaved Pelargoniums by planting tubs and vases with them, and arranging them on the terraces and at salient points, where they are the showiest things in the garden.

Roses are the favourite flowers at Shiplake Court, especially Tea and climbing Roses, with which the rosary is mainly planted. There they gave up till quite lately a good display, although for flowers generally it has been a very bad season. Nevertheless Mr. Hall says that the *Souvenir de la Malmaison* Rose, which forms the principal feature on one side of the rosary, has been the most satisfactory of all; for notwithstanding that the flowers suffer much from wet weather, they made a splendid show for the month before the bad weather set in, have had a fair lot of blooms since, and are making up large heads of flowers for later flowering. *La France* and most of the Tea and hybrid Teas have also done well, and are still making a good show; and on the trellises, *W. Allen Richardson*, *Lamarck*, *Gloire de Dijon*, the different varieties of *Banksian*, *Macartney*, *Crimson Rambler*, and others of like nature, have been good.

Irish Yews, both green and golden, are effectively used on the terraces; and in several parts of the garden are clumps or long rows of Lavender, which, like the large clumps of *Gloriosa plicata*, thrive admirably on the chalk, the depth of which is indicated by the cliff rising above a nook on the edge of the estate, and which with a little cost might be made a very charming retreat, especially in hot weather.

THE KITCHEN GARDEN.

If Mr. Hall has any partiality for one section of charge more than for another it is for the kitchen-garden and plant-growing department, in which he has attained the highest proficiency. Truly all the crops are of the best possible quality, and if there is not much poetry or artistic beauty in large beds of enormous Onions or hard-hearted Cabbages, there is much utility, and the labour and skill used in their production are well bestowed.

The kitchen garden is of great extent, the walks intersecting it being planted with showy perennials and Rose arches turned over them in places. One of these arches covered with *Aimée Vibert* was a magnificent sight earlier in the season, when its massive head was thickly set with clusters of pretty white flowers.

Satisfactory results have been attained with most of the main crops of vegetables, though the frequent rains have rendered it difficult to get on with the work at times. The fruit-trees are in splendid condition, and it is a rare thing to see them with fine smooth clean bark, as is the case with all kinds of fruit trees in this garden. About the fruit crop the tale here is the same as in many other gardens—none worth speaking about when the large number of trees of all kinds are considered. Of Pears and Apples there are some, a few Plums also, but nothing worth calling a crop.

In a dry, chalky garden like this, however, as in many other places, the excessive wet and "fallow" year is not all loss. In the matter of trees and shrubs, which were suffering for years from insufficiency of water, the present wet season has been salvation.

THE GLASSHOUSES

consist of ranges of vineries, Peach and Nectarine, Melon and Cucumber houses, all of which bear evidence in the useful produce still to be seen that they have been skilfully handled. The other houses are used for growing flowers. Mr. Hall is an expert at *Mignonette* culture, his *Freesias* in pots were a sight worth seeing earlier in the year, and each of the other florists' flowers undertaken are excellently well grown. One house is a fine sight with tall spikes of white and blue *Campanula pyramidalis*, scarlet *Begonias*, Ivy *Pelargoniums*, &c. Another has a large batch of *Carnation Belle Rose*, which is said to be one of the most profuse autumn and winter bloomers, just commencing to flower. The frame-ground has a large stock of winter-blooming plants, and a splendid collection of *Chrysanthemums*. The whole estate comprises about 404 acres. Our illustrations are from photographs by Mr. Mason Good.

The Week's Work.

FRUITS UNDER GLASS.

By T. H. C.

Strawberries.—The time has arrived when *Strawberries* intended for forcing should be placed under cover, the best for the purpose being shallow pits and cold frames from which frost can be excluded by artificial heat. If these appliances do not exist let the pots be plunged to the rims in fine coal-ashes or tree-leaves in garden-frames, affording a covering of mats, bracken, or straw in very severe weather. When it is wet or frosty the lights should be removed in the daytime. In the absence of cold frames lay the pots on their sides facing outwards in layers with leaf-mould or coal-ashes between, piling them up in sloping banks in the front of a south wall. Protect the plants in hard weather with litter, &c., as if the soil gets frozen many of the pots will burst. A drawback to this method is that water cannot be readily afforded, but it is scarcely ever necessary before the spring. Towards the middle of November some of the plants of *Vicomtesse H. de Thury* or *Keen's Seedling*, which have been the longest potted, may be started on a slight hotbed made of tree-leaves, plunging them wholly or partially. The warmth of the pit should not exceed 50°, with plenty of ventilation. Before plunging the pots clear off dead leaves and loosen the surface slightly. The plants should come up to within 15 inches of the lights and receive no water before the flowers appear, the moisture from the leaf-bed usually sufficing. The bottom-heat may not exceed 70°.

The Early Black Hamburgh Vinery.—The foliage being quite ripe, the Vines may be pruned towards the end of the month of November or early in the next. Prune back the lateral-shoots to a strong plump bud within two or three joints of the main rod if possible; and if the Vines do not reach to the top of the vinery shorten them to within 2 feet of the point to which they were pruned last year, for if Vines are left of a greater length the lower buds do not always break satisfactorily in early vineries. Thoroughly cleanse the sashes, rafters, hot-water-pipes, walls,

and do not forget to scrape off much of the old lime-wash previous to affording a new coat. If insects did not infest the Vines this year, merely remove the rougher parts of the bark and wash them with an insecticide; but if red-spider, thrips, mealy-bug, or scale have given trouble, let the rods be scraped, not injuring the inner bark or the buds, and cleanse all probable hiding-places, then wash the rods with the following solution. Dissolve 1 lb. of caustic-soda in a pan of water, then add $\frac{1}{2}$ lb. of carbonate of potash and stir until dissolved, add to this 10 ozs. soft-soap dissolved in a little boiling water; dilute with 10 gallons of rain-water and thoroughly stir the mixture. This will be found a most effective winter dressing for all kinds of fruit-trees and Vines under glass. In cleansing the Vines employ a partly-worn-out paint-brush, and work it well into the crevices found about the spurs. Be careful not to let the caustic solution come in contact with the hands or clothes. The rods being cleansed tie them in position, except in the case of young Vines, which if tied in a horizontal position or with the ends of the rods depressed will induce an even break. If the borders have not been already over-hauled, treat them exactly as I advised in the Calendar for August 22. Afford full ventilation until such time as the Vines are started.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Francoa ramosa.—Transfer seedling plants to pots 5½ inches in diameter, using a mixture of loam and leaf-soil with a small quantity of sifted horse-droppings and sand. Plunge the plants in cold pits or frames facing south, and apply scarcely any water at the root. The lights should be pulled back for a few hours in fine weather, and a mat thrown over the lights in severe weather. Caterpillars sometimes molest *Francoas*, and these must be searched for and caught at night with the aid of a lantern.

Mignonette.—If standing in 4½ and 5½-inch pots, a shift into 7-inch and 8-inch respectively should be afforded, taking care not to break the ball. A mixture similar to that advised for *Francoas*, with the addition of a small quantity of soot and pounded mortar-rubble, is very suitable for this plant. Place four neat stakes at the sides of the pot to carry a strip of raffia, or put one to each plant. This matter should be attended to betimes, or the plants will bend or snap off in getting them into position. Part of the stock of plants may have the points of the main shoots stopped so as to form more bushy plants, and these will form a succession to those allowed to grow on unchecked. A cool, airy shelf is the best place for *Mignonette* in the winter, and a warm stuffy atmosphere is fatal to the plant, as also a sodden state of the soil, so that the application of water should be carried out very carefully, never affording any unless it be wanted, and never using a rose on the spout.

Amaryllis.—Plants of *A. aulica* are now affording nice spikes; these will be followed by the earliest of the garden hybrid varieties, many of which are throwing up strong spikes even now under quite cool treatment. Where there exists a large stock of bulbs it is a simple matter to have *Amaryllis* in bloom from this date till the end of the month of May by frequently examining the collection of bulbs, and when the point of a flower-spike is observed to be pushing up, place that bulb in a pit having a warmth at night of 60° (less rather than more), and in a few days later shake out and repot the bulb if that was not done last season. In potting, employ pasture-loam, some leaf-soil and a small quantity of bone-meal, together with a moderate amount of sharp sand and small bits of charcoal. Avoid affording much water till the bulbs have made plenty of roots. Bulbs of *A. aulica* usually carry two flower-trusses, and being strong growers, they throw up numerous offsets. The old bulbs should be repotted annually, which I do immediately they pass out of flower, and they are not rested nearly as much as the hybrids. The offsets, if carefully detached, make flowering bulbs in three or four years, but I find the better the variety the less inclined it is to increase in this manner. Bulbs

which are resting should be afforded a light position, and any bulb that is inclined to shrivel afforded a small quantity of water. Seedlings of this year should be kept moist at the root throughout the winter, or many will perish.

The Plant Stove.—Where plants of Allamandas or Clerodendron Balfouriana are used to adorn the roof, these should have a general thinning of the shoots, so as to admit light to the plants below, but deferring the final pruning till the new year. The night temperature should be lowered to 65°, and a small amount of air admitted when a temperature of 75° with sun heat is reached.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Phalenopsis.—Many of these having finished their growth should be afforded much less moisture at the root from this time onwards. It is advisable at this season to allow the potting materials to become quite dry before affording water. Should the sphagnum have grown to a great length during the summer months, as it will have done in some cases, trim it neatly. For sphagnum, if left in an untrimmed state, harbours more moisture round the collar of the plant than is good for the latter, and decay may set in; it is likewise not an easy matter to ascertain the state of the materials below. All blinds and shadings may now be dispensed with, and the glass made clear and bright, so that the newly-made leaves may acquire that solidity of texture necessary to enable the plants to pass safely through the winter.

Vanda cœrulea.—This is now to be seen in flower in Cattleya-houses. The plant seldom grows satisfactorily for many years in succession, watery spots appearing on the leaves, which afterwards turn black. This malady has been apparent this season, more especially when wet chilly weather has followed the application of water to the roots of the plants. The only method by which this spot may be prevented is to give air in abundance whenever the weather conditions are favourable, and to refrain from over-head syringing, &c., in dull or wet weather. After flowering is past the plants should remain in the Cattleya-house, and be afforded a very small amount of moisture. Other Vandas and Aerides, and Saccobulbiums now need much less water at the roots, especially if a leaf-soil compost be employed. They should not, however, be kept quite dry during the winter, as this would cause shrivelling of the pseudo-bulbs; but the plants are all the better for a thorough drying out of the compost before water is applied.

Trichopilia fragrans is now in flower, and care will be needed to prevent slugs and snails devouring the flowers, for which they have a strong liking. Let the plants stand clear of all others, on flower-pots inverted in saucers filled with water. It is a plant that needs a long rest in the cool intermediate house after flowering, and to be afforded water but very seldom.

Miltonia spectabilis.—A charming, attractive species, of which M. s. Moreliana and M. s. atropurpurea afford fine purple-coloured flowers during the autumn. After the growth is finished the pseudo-bulbs and leaves assume a peculiar yellow tint, which not even leaf-soil can alter, it being natural to the plants. Keep the materials on the dry side from now till growth becomes active in the new year.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Asparagus.—The stems of the plants being mature should now be cut down to the level of the beds and the latter hoed and weeds and rubbish raked off and burned. Then afford the beds a thick coat of half-decayed farmyard-manure. At this date the forcing of Asparagus may be commenced, the first thing to be done being the building of a hotbed for forcing the roots. This should consist of tree-leaves three parts, and long stable-litter one part. A hotbed may be placed above the ground level, also in a hole dug out big enough to hold a one, two, or three-light frame, or in an ordinary brick pit furnished

with hot-water-pipes for top-heat. When the heat declines to about 80° the roots should be lifted, the strongest crowns selected, and conveyed immediately to the frame, where they should be packed close together, and covered 4 or 5 inches deep with soil or leaf-mould, and afforded tepid water. When the heads appear syringe the frame morning and afternoon. A temperature ranging from 60° to 70° is a suitable one. In mild weather air should be admitted. The warmth of a bed of fermenting leaves is liable to vary with the conditions of the weather, and should the bottom-heat thermometer indicate a degree of warmth exceeding 80°, holes should be bored in the bed with a pointed stake to afford a means of egress for the heat, these being closed when it has declined. Frames will require linings of warm materials, but not so hot-water pits. As a means of conserving the heat by night the frames should be covered with mats, &c. Let the glass be kept clear and bright-looking.

Parsley that was planted as advised in frames being now well established, the lights should be kept off whenever the weather permits. Late-sown Parsley in the open should have some kind of temporary framework erected over it so that it may be covered with mats in the event of very hard frosts.

French Beans in pits and frames.—Plants that are commencing to pod should be afforded freely liquid-manure and some amount of ventilation whenever the weather is favourable. Gather the pods when just large enough, and do not exhaust the plants by letting seeds form in them. Late sowings keep well syringed with tepid water and as near the glass as possible, which latter keep very clean. Make another sowing in well-drained 8-inch pots, using a light, rich, loamy compost.

Cauliflowers.—Those planted in cold pits and frames should be freely aired, the lights being drawn off them whenever it does not rain or freeze. Early sowings are in a very forward condition owing to the mild weather, and the chief concern of the gardener will be to keep them stocky and strong, so as the better to withstand the winter. Cauliflowers in the open quarters showing heads should have the leaves drawn loosely together and tied together at the tips as a protection against rain and frost. Those large enough for table use should be stored in a frost-proof shed or cellar, where if kept damp they will keep in good condition for some time longer.

Globe Artichokes.—Take off suckers from the old stools and pot them in 8-inch pots in a compost of two parts light loam, one part leaf-soil, and the remaining part of coarse sand. Place in cold frames or plunge at the foot of a south wall in tree leaves or coal ashes, protecting them with litter from sharp frosts. The best variety is the large green one that is almost destitute of prickles. The purple variety is also very good, but not quite large enough for some persons. Seedling Artichokes can never be relied upon to come true to character.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Droghmore, Maidenhead.

The Winter Moth.—Where this pest (*Cheimatobia brumata*) of the Apple-tree is common, grease bands underlaid with a band of Willesden waterproof paper 6 inches in width, should be fixed on the stems at about 4 feet from the ground level and tied tightly above. There are several sorts of grease or composition used for this purpose. These grease bands should be examined at frequent intervals, and the captured moths killed. The grease on the bands must be renewed when it has lost its stickiness, as it will do after being much exposed to heavy rain. Much would be done towards ridding orchards of this pest if this plan were followed up, as every female is capable of depositing about 300 eggs.

The Raspberry.—In forming new plantations there is no necessity to wait till all the leaves have fallen before beginning, as in a season like the present, especially on light soils, planting could be carried out at once. If the ground has been duly trenched as advised in a former Calendar, it will now be in a suitable state for planting. The rows of canes should run

from north to south if possible. For the varieties *Semper Fidelis*, *Red* and *Yellow Antwerp*, and *Carter's Prolific*, a space 5 feet between the rows and 18 inches from stool to stool should be afforded; but stronger growers, such as *Superlative*, should be planted at a greater distance—say 1 foot and 6 inches respectively. Postpone all planting whilst the land is wet, and in the event of finer weather setting in, let the plot of ground be pointed over with a digging fork, and collect a good quantity of leaf-soil, charred earth, and potting-bench refuse, and place in a dry place. These substances, when mixed together, form a good covering for the roots. The canes should be shortened to about 2 feet in length after planting, as if left of full length they are apt to get loosened by the action of the wind. Posts and wires for training the canes can be attended to later on when the ground is in a settled condition.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Lifting Dahlias, &c.—Excepting in very favoured localities, where the plants have not been blackened by frost, it will be advisable now to lift all such Dahlia-roots as are to be stored, choosing a dry day for the work. In setting to work, first cut down the stems to within 8 inches of the tubers; then raise the latter so as not to break them, and place in a dry shed, the tubers uppermost, leaving them thus for a day or two in order to let the water collected in the hollow stems run out; then store in a dry, cool place which frost cannot enter. Marvel of Peru will in the warmer counties pass the winter in the open ground, but in other parts it is better to lift and treat them similarly to Dahlias.

Cannas were very slow in growth this year, and as long as no sharp frost occurs they may remain in the ground. After frost let them be lifted forthwith, and carefully dry the clumps before storing them in a somewhat warmer place than that in which the Dahlias are stored.

Tuberous-rooted Begonias.—The flower-stems will drop away from the tubers with the first frost of any degree of severity, and the tubers may then be lifted and stored in single layers in shallow boxes or on a shelf, leaving a little soil attached to them, and drying this before putting them into the store-room.

Montbretias.—At this season Montbretias may be lifted and the bigger bulbs sorted out, replanting them 2 inches apart in good soil, which, if deficient in sand, may have a handful incorporated with the staple near the bulbs. These fine decorative plants are often neglected and starved by being grown in the same spot year after year, the result being very few flowers and a great quantity of puny growths. I do not suggest that it is necessary to lift and divide them every year, though better results are generally obtained by this method, but certainly not more than two years should elapse without replanting. If the bulbs are not to be removed this year the top-growth should not be cut away, as this forms a protection from cutting winds when the new growth is pushing up in the spring. The rather new *M. Germania* will be found an excellent variety to add to the choicest collection.

Liliums.—Tiny bulbils form on the stems of many species of Liliums, which, if collected and planted in the open or nursed for the first year in boxes filled with sandy soil in a cold frame, will repay for the trouble, as they will form the nucleus of a healthy stock of bulbs, which soon grows to flowering size.

BOTANICAL LABORATORY AT JAMAICA.

We are very glad to hear of the establishment of a botanical research station in Jamaica, where the circumstances are propitious for such an undertaking. But it is not altogether satisfactory that this establishment should have been inaugurated by our cousins from New York. Surely we were competent to do it for ourselves, and to extend every possible hospitality to American and other botanists.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY, Oct. 26	National Chrysanthemum Society's Floral Committee meets.
TUESDAY, Oct. 27	Royal Horticultural Society's Committee meets. Lecture on "Pruning Roses."
WEDNESDAY, Oct. 28	Royal Botanical Society meets.
THURSDAY, Oct. 29	Torquay Gardeners' Association's Chrysanthemum Show. Irish Gardeners' Association meets.

SALES FOR THE WEEK.

MONDAY to FRIDAY NEXT—	Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30 A.M.—Bulbs, Spireas, Azaleas, Lilacs, Bamboos, Palms, and Decorative Plants, at Stevens' Rooms, at 12.30.
MONDAY, Oct. 26—	Clearance Sale of Nursery Stock at Hatton Hill Nursery, Windlesham, Surrey, by Protheroe & Morris, at 12 o'clock.
TUESDAY, Oct. 27—	Forest Trees, Shrubs, &c., at the Nursery, West Street, Bromley, Kent, by Protheroe & Morris, at 12 o'clock.
TUESDAY and WEDNESDAY, Oct. 27 and 28—	Nursery Stock at Windlesham Nurseries, Bagshot, Surrey, by order of Messrs. Fromow & Son, at 12 o'clock, by Protheroe & Morris.
WEDNESDAY, Oct. 28—	Azaleas, Rhododendrons, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 4 o'clock.—Bulbs, Azaleas, Lilacs, Bamboos, Palms, &c., at Stevens' Rooms, at 12.30.
THURSDAY and FRIDAY, Oct. 29, 30—	Trees, Shrubs, &c., at Hollamby's Nurseries, Groombridge, Tunbridge Wells, by Protheroe & Morris, at 12 o'clock.
FRIDAY, Oct. 30—	14,000 <i>Odontoglossum crispum</i> at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30 o'clock.
WEDNESDAY, Nov. 4, and following day—	Sale of duplicate Orchids at Harefield Hall, Wilm-slow, Cheshire, by Mr. John Cowan, of the Gateacre Nurseries, near Liverpool.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—45°.

ACTUAL TEMPERATURES:—

LONDON.—Oct. 21 (6 P.M.): Max. 56°; Min. 50°. Oct. 22 (noon): 53°; overcast, rainy.
PROVINCES.—Oct. 21 (6 P.M.): Max. 54°, Exeter; Min. 49°, Ely.

Truffle Growing.

ACCORDING to some documents forwarded to us by M. EMILE BOULANGER, that gentleman lately exhibited, before the French Société Mycologique, some Truffles raised after two years' cultivation by scientific methods analogous to those by which Mushroom-growers are now able to raise pure spawn from the spores. M. BOULANGER reports that in fifteen hectares (rather more than thirty acres) of wood near Etampes, he started numerous Truffle-beds by the following processes:—1. Germination of the "ascospore," or reproductive body contained in a special cell or "ascus" of the Truffle by "aseptic" seeding of fragments from the inside of the tuber in tubes of ordinary water, sterilised

so as to prevent the access or growth of other fungi. 2. Growth of the mycelium or spawn so obtained on slices of cooked Carrot, with the addition of calcareous soil. Under these conditions "conidial" forms were produced (spores formed on the outside of special threads). 3. Preparation of a mineral manure containing six per thousand of sulphate of potash and an equal quantity of superphosphate of lime. The mixture of the conidia with this manure was then applied to raw Carrots, which were buried at the foot of Oaks. The soil was sprinkled with the precipitated manure in the form of powder. From the ground so prepared, M. BOULANGER last winter obtained Truffles varying in size from that of a Hazelnut to that of a Walnut; the smallest were well formed and showed typical ascospores, having, further, the perfume of the ordinary Truffles, such as are found by the aid of dogs.

M. MATRUHOT has also succeeded in cultivating in an isolated and pure condition the spawn of *Tuber melanosporum* (Périgord Truffle) and of *T. uncinatum* (Burgundy Truffle). As there is some difference of opinion as to certain details between these two gentlemen, it is desirable to keep an open mind on the subject, but of the main facts of the case there can, it seems, be no room for doubt, and scientific Truffle-culture will in the not distant future become a recognised branch of the cultivator's art.

The Kew Hand-Lists.

So long ago as 1878, in a communication on the nomenclature of garden plants read before the Scientific Committee of the Royal Horticultural Society, we had occasion to comment on the necessity for an authoritative catalogue of garden plants which should take the place of the old *Hortus Kewensis*. Since that time great things have been accomplished. The monumental *Genera Plantarum* has been completed, the colossal *Index Kewensis* has been brought down to 1885, and progress has been made with the first Supplement, which will bring that work down to 1895. Further Supplements are also in course of preparation, which will render the work close up to date. These books, which are inestimable boons to botanists and students, contain a great deal which is not required by the cultivator of plants. Their size and cost also preclude their use by gardeners in general. For them Nicholson's *Dictionary of Gardening* is more suitable; but that again is in five volumes. Something more concise and less expensive was needed, and that has been supplied in the series of admirable *Hand-Lists* which have been prepared at and issued from the Royal Gardens, Kew. These have been compiled with great care, and checked and verified by reference to the herbarium and library of that establishment. Moreover, the Lists have been prepared sectionally, so that those interested in Ferns or in Orchids, we will say, can procure the catalogues relating to those orders without the necessity of purchasing the entire series.

In these Lists, as in other recent Kew publications, the spelling of the names in some particular instances differs from that used in the *Index Kewensis*. For instance, we find *Passiflora Hahnii* written with a capital H, whilst the very next entry is written *P. herbertiana*. The rule followed,

therefore, is to use a capital letter when the personal name is employed as a substantive, but to prefix a small letter when the personal name is used as an adjective. "Hahnii" is the genitive case of a noun; "herbertiana" is the adjective formed from the name Herbert. It is not necessary here to express any opinion upon this practice, because, according to the revised *Lois de Nomenclature*, it was left open to botanists to follow whichever plan they preferred. A similar remark applies to names derived from geographical localities.

There are other cases where a capital name is employed for the name of a species, to the great puzzlement of gardeners—for instance, *Ilex Perado*. We presume in this case that "Perado" is a native or vernacular name which has been adopted as a specific appellation. *Ilex Dahoon* and *I. Cassine* are in like case. But the most frequent instances of this kind are those in which the adopted specific name is the name of an old genus now disused, as in *Hibiscus Sabdariffa*. These cases, especially when a neuter specific name is, as it often is, "apposed" to a feminine generic appellation, are bewildering to inexperienced botanists, who are apt to think that some mistake has been committed. They illustrate a point to which we have often referred in these columns, that as a general rule a name should be a name and nothing else. Except in rare instances, a name should as a general principle signify nothing. Once it becomes descriptive, or once it is made to involve some point of history, the door is opened to endless confusion and difficulties innumerable. Description, synonymy, history, should each have a place apart and not be mixed up with the name.

We allude now to these matters because one of our correspondents lately attributed "carelessness" to the compilers of one of the *Kew Hand-Lists*, when as a matter of fact there was no carelessness, but there was, as was pointed out at the time by Sir WILLIAM THISELTON DYER himself, and by the Rev. C. WOLLEY-DOD, a well-thought-out plan systematically and consistently carried out.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Fruit and Floral Committees of the Royal Horticultural Society will be held on Tuesday, October 27, in the Drill Hall, Buckingham Gate, Westminster, from 1 to 4 P.M. A paper on "Pruning Roses," by Mons. VIVIAND MOREL, will be read at 3 o'clock.

— At a General Meeting of the Royal Horticultural Society held on Tuesday, October 13, sixty-five new Fellows were elected, making a total of 1,206 elected since the beginning of the present year.

— **EXAMINATIONS IN HORTICULTURE, 1904.**—1. *General Examination.*—The Society's annual examination in the principles and practice of horticulture will be held on Wednesday, April 20, 1904. The examination will be held simultaneously in as many different centres in Great Britain and Ireland as circumstances may demand, the Society being willing to hold an examination wherever a magistrate, clergyman, schoolmaster, or other responsible person accustomed to examinations will consent to supervise on the Society's behalf. A copy of the syllabus may be obtained by sending a stamped and directed envelope to the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W. Intending candidates should send in their

names not later than March 1. Copies of the questions set at the examinations 1893—1902 can be obtained at the Royal Horticultural Society's office, price 1s.

2. School Teachers' Examination.—The Society will also hold an examination in Cottage Gardening on Tuesday, June 21, 1904. The examination is intended for, and will be confined to, elementary school teachers. It has been undertaken in view of the increasing demand in country districts that the schoolmaster shall be competent to teach the elements of cottage gardening, and of the absence of any test whatever of such competence. The general conduct of this examination will be on similar lines to that of the more general examination, save in obvious points on which they would not apply. Full particulars will be issued on and after January 1, 1904.

TURIN HORTICULTURAL EXHIBITION.—The 1904 International Horticultural Exhibition in Turin will be one of the most important of the coming year. The show is promoted by the Reale Società Orto-Agricola del Piedmont, and is to be held under the patronage of the Dowager Queen MARGHERITA, His Royal Highness the Duke of AOSTA being Honorary President. This exhibition will be held in the Valentino Park in May, 1904. This park is one of the most beautiful in Europe, and the show ground is a very picturesque one. The plants and flowers will be staged in the gallery, where last year were shown some of the finest works of painting and sculpture. The view of the river and of the mountains will give a natural and picturesque frame for the flowers and plants. According to the programme giving the number of the sections and the awards offered, the exhibition will be a large one. On the "Honorary Committee" I notice a few English names, as those of Mr. T. BEVAN, of the National Chrysanthemum Society; Dr. MAXWELL T. MASTERS, of the *Gardeners' Chronicle*; Mr. HERMAN C. PAYNE, of the National Chrysanthemum Society; and Lord REDESDALE. These indications, and the kind reception offered by the Italian Society to foreign visitors, should attract many to this show. A. Scalarandis, jun., *Royal Gardens, Stupinigi, Italy*.

DICTAMNUS SEEDS.—We have already expressed our acknowledgments to the numerous readers who have kindly furnished us with seeds, in order that we might test the observations recorded at p. 259. After a great number of trials we have been unable to confirm the statement made. Our observations coincide with those of several of our correspondents, among them those of Mr. DIVERS, whose letter we sub-join:—"I send both dry and freshly-cut seed-pods of *Dictamnus Fraxinella*. It is quite true that they [the seeds] adhere to the point of a knife; but this is not due to magnetism or electricity, as your correspondent would have proved for himself if he had tried them with a quill, toothpick, a lead-pencil, or a pointed stick, to all of which they also adhere. By pressing the seed on the finger a small amount of moisture may be found, which is, I believe, slightly adhesive, and in this resembles the green stems and capsules of the plant. An interesting effect may sometimes be obtained, when this plant is in flower, by applying a lighted match to the stem, immediately under the flowers; the whole plant will flare up quickly, and on examining it afterwards no trace of injury will be found. A warm evening, about the time of sunset, when the air is perfectly calm, is the best time for this experiment, which I have repeated on many occasions. A strong perfume is given off by the resinous secretion when it is burning."

PROFESSOR KARL HANSEN.—The well-known teacher in the Agricultural High School in Copenhagen died at the end of the month of September last, his body having been found on the

25th in the Oeresund. He was for twenty-five years Professor of Horticulture at the above-named school, and he would have retired on a pension on November 1. Professor HANSEN was an occasional contributor to our columns, and was the author of the useful compilation entitled the "Pinetum Danicum" in the Report of the Conifer Conference.

PROFESSOR HUGO DE VRIES.—The author of the *Theory of Mutation* celebrated on Thursday, October 15, the day on which, twenty-five years ago, he was appointed Professor in the Amsterdam University and Director of the Botanical Garden. Numerous Dutchmen have subscribed a large sum of money to enable him to undertake research on a more extensive scale.

NEPENTHES.—Last week we had occasion to mention the very brilliant variety of *Nepenthes Northiana*, which had been obtained by M. JARRY-DESLOGES, of Remilly, Ardennes, France. That gentleman informs us that the variety is now in flower with him, but that only the male flowers are produced. He has sought in vain among French horticulturists for a female flower for purposes of fertilisation. If any of our readers having the female flower open would communicate with M. JARRY-DESLOGES at the above address, he would willingly send some pollen on condition that some of the resultant seeds were sent to him.

CAMPANULA PERSICIFOLIA.—In the September number of the *Journal of Botany*, Mr. CLARIDGE DUCE gives reasons for the belief that this plant is really indigenous. Where found it has generally been considered as a vagrant from gardens, but in a locality in Gloucestershire it has, it seems, better claims to be considered a true native.

THE NEW LADY WARWICK COLLEGE.—The lease of the Lady Warwick Hostel, Reading, having expired, the success of the work there accomplished has proved so great that the founder feels herself justified in removing her establishment to larger quarters. These are found in the new Agricultural College for Women at Studley Castle, Warwickshire, 15 miles from Birmingham. Studley Park is 340 acres in extent, is beautifully wooded, and includes some fine and scarce trees. The castle is a handsome building, about seventy years old, and contains all the accommodation at present required. We need not here go into details concerning Lady WARWICK's work; suffice it that it is that of training educated women in horticulture and the lighter branches of agriculture. Since the beginning of the scheme in 1897 or 1898, great advances have been made, and the founder has every reason to be proud of the 225 students who have passed through the Hostel during these last five years. We note that "there is a growing demand for trained women who can organise the business of small co-operative societies, which are springing up in connection with the work of the Agricultural Organisation Society." We wish increasing success to the founder and followers of this useful undertaking, now starting afresh in a larger and more advantageous situation.

VEGETABLES FOR PROFIT.—Four books have reached us: *The Profitable Farm and Garden Handbooks*, edited by Mr. T. W. SANDERS, and published by W. H. & L. COLLINGRIDGE, 148, Aldersgate Street, E.C. Of these books No. 1 is entitled, "Green Crops and Herbs for Profit: a Practical Treatise on the cultivation of Borecole, Broccoli, Brussels-Sprouts, Cabbage, Cauliflower, Coleworts, Savoy, Spinach, and Herbs for Market, including the best Methods of Packing and Marketing the Crops." No. 2 is devoted to Roots, Bulbs, and Tubers for Profit, including Beet, Carrots, Celeriac, Garlic, Horse-Radish, Jerusalem Artichokes, Kohl Rabi, Leeks, Onions, Parsnips,

Potatoes, Salsify, Scorzonera, Shallots, and Turnips, with descriptions of the pests that attack such crops. No. 3 deals with Asparagus, Beans, Peas, Celery, Cardoons, Globe Artichokes, Rhubarb, Ridge Cucumbers, Seakale, and Vegetable Marrows; and No. 4 with Mushrooms, Corn-salad, Chicory, Cucumbers, Dandelion, Endive, Lettuce, and other Salad plants. The object of these books is "to meet the requirements of small and large holders who desire thoroughly practical and up-to-date information on the culture of market garden crops . . . and to help those who are anxious to try their skill in growing profitably and to make the most of their holdings." The series has been written by experienced growers, and the work of Mr. SANDERS may also be depended upon. The books are plainly written, illustrated, and issued at a price that brings them within the reach of all, so that they should well fulfil the purpose for which they are intended.

A NEWSPAPER PRINTED ON PAPER MADE FROM WOOD-PULP IN LESS THAN THREE HOURS.—A recent number of *Le Moniteur de l'Horticulture* gives an amusing description of the publication, at 10 o'clock, of a journal, the paper of which was made from a tree growing in the forest at half-past 7 the same morning—that is to say, two hours and a half previously. The feat was performed at Elsenthal, and began by the felling of three trees, and their removal to the factory, where the trunks were sawn into logs, and these barked and split. The wood thus prepared was then reduced to pulp, and this pulp transferred to the paper-making machine. At about half-past 9 the first sheet of paper was completed, and soon this and other pages were sent to the printing-office, about 2 miles off. At 10 o'clock a completed newspaper was published.

A FRUIT-WRAPPING MACHINE.—The *Maritime Merchant* of August 13 has the following note:—"A machine for wrapping Oranges and other fruits with paper has recently been perfected, and is being installed in some of the large orchards and packing-sheds of California and Florida. The machine is run either by hand or power, and has a capacity of 25,000 to 40,000 Oranges per day. The paper is fed from the endless roll, and the machine will wrap fruit from the size of marbles upwards, and will handle eggs without breaking them. With such a machine the cost of wrapping is much reduced." *Agricultural News, W.I.*

THE THOMAS HUMPHREYS TESTIMONIAL.—Mr. RICHARD DEAN, the Secretary of the Testimonial Fund, reports that the sum of £43 11s. was subscribed by seventy-four persons in sums varying from 2s. 6d. to one guinea; the sum of £1 15s. 6d. was spent for printing, stationery, postages, &c., and the remainder, viz., £41 15s. 6d., was expended in preparing the illuminated address and in purchasing the cabinet of cutlery and tea service presented with the address. A letter has been received from Mr. HUMPHREYS expressive of his deep thankfulness, and of his appreciation of the excellent "send off" on the occasion of his leaving Chiswick for Edgbaston.

CASTLE SAUNDERSON.—Mr. BURBIDGE writes: "At Castle Saunderson there is by far the most extensive and beautiful bog or marsh garden I have ever seen. Several acres of pools and canals running amongst islands and peninsulas of bog earth capped with Ghent and other Azaleas now turning crimson and gold, torch Lilies (*Kniphofia*), *Arundo*, *Pampas*, *Rhus*, *Euonymus*, *Berberis*, and many other shrubs and herbaceous plants. The dark pools, their margins fringed with red and yellow carpets of sphagnum-moss, the black peaty sides contrasted with silver-barked Birch and blue-leaved Pines, and the whole mass of colour and sunshine shut in by sheltering woods and plantations, form a sight I have never seen the like of

before. It is a delightful bit of natural gardening, of which Mrs. SAUNDERSON may well feel proud of having made amid such beautiful surroundings. The paths are soft and springy, like Persian rugs, and there are simple seats and shelters, reached by little log bridges, from which a survey of the whole expanse can be made. Here and there sheltered bits and mossy nooks are jewelled or enamelled with Shortias, Sarracenias and other bog-loving rarities, while along a soft and moist woodpath under trees in the vicinity the dainty little *Sibthorpia europæa* spreads itself happily over a considerable area. There is a lake in front of the Castle, formed by the Finn river and connected with Lough Erne, and the grounds are noted for their noble trees."

GRAFTING AS A MEANS OF MODIFYING THE HABITS OF PLANTS.—M. LUCIEN DANIEL'S researches concerning the modifications that can be induced in the habits of plants by grafting, and that have been communicated to the *Comptes Rendus* for May 11, 1903, are thus summed up:—1. Grafting the annual parts of perennial plants upon suitable perennials modifies the existence of these annual parts and prolongs their blooming season (Composites). 2. Grafting perennials on annuals in some climates may render the stock persistent (Giant Tobacco). 3. The nature of the plants and the swelling of the graft are of great importance as regards the extent of these phenomena. 4. Grafting does not in all cases ensure the unmodified preservation of the characteristics of the graft or of the stock; it sometimes considerably alters these characteristics. C. Bonnier, in "*Botanisches Centralblatt*," No. 36, 1903.

VIOLA PAPILIO.—Under this name we came across, at Messrs. TRUFFAUT'S Nurseries at Versailles, a pretty *Viola* for beds or borders, with rather deep blue flowers and much divided foliage. It had something the look of *V. pedata*, but comparison was not possible at the time. Anyway we recommend "*Viola papilio*" to the notice of lovers of hardy plants, as this particular variety we were assured flowers throughout the season.

RUDOLF FALB.—The popular meteorologist died on September 30 at Schöneberg, near Berlin. FALB was born on April 13, 1838, in the little town of Obdach, in Styria, studied theology and became a Catholic parish priest, but afterwards went over to the Protestant persuasion. Although FALB'S theories are opposed in scientific circles, the folk swear by his "Critical Days."

THE ANNUAL DINNER of the United Horticultural Benefit and Provident Society, it will be remembered, is to take place on Tuesday next at the Holborn Restaurant, when Mr. PETER BARR will preside. Tickets may be obtained of the Secretary at 9, Martindale Road, Balham, S.W.

OFFICIAL CATALOGUE OF THE NATIONAL CHRYSANTHEMUM SOCIETY.—A Supplement has just been issued (price 1s.) to the Official Jubilee Edition of the Catalogue issued in 1896. The Supplement contains forty-three pages, neatly and distinctly printed. Selections have been made and are included in the following thirteen groups:—Incurved, Japanese, Japanese Incurved, Hairy, Reflexed, Large Anemones, Japanese Anemones, Pompons, Pompon Anemones, Single (large and small flowering), Early Flowering varieties, Spidery-plumed, Feathery and Fantastic varieties, and Market and Decorative varieties. Following these sections an alphabetical list is given of new Chrysanthemums raised or sent out since 1896. In the sections the adjective or Christian name is printed first, as "Dorothy Pywell" and "Tam O'Shanter," but in the general list the noun or surname, as the case may be, appears first, as "Pywell, Dorothy," and "O'Shanter, Tam," thus furnishing cross-refer-

ences. A number of varieties that appear in the selections are not included in the general list, instances being Winter Queen, Orange Marie Massé, and Framfield Pink. Presumably all those included in the selections have been "raised or sent out since 1896," and should be in the general list. The pages gain nothing in appearance from the inclusion of a large number of inappropriate head and tail-pieces; at the same time this supplement is a well-got-up pamphlet, and is indispensable to exhibitors of Chrysanthemums.

THE GUERNSEY GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION are offering a Silver Challenge Cup, value £10, under the following conditions: Twenty-four blooms of Japanese Chrysanthemums, not less than twelve distinct varieties, to be won any three times, and to be open to all comers, to be competed for in Class 29 at the Royal Guernsey Horticultural and Agricultural Society's show, on November 11 and 12, in the new Market Halls, Guernsey. The Hon. Secretary is Mr. FRANK E. WATSON, 16, Haviland Street, Guernsey.

SALVIA AZUREA.—Mr. PERRY, of the Winchmore Hill Nurseries, has sent us specimens of a very strong-growing variety of this blue-flowered species, that perhaps may be grown with greater ease than the type. It is called *grandiflora*.

RESEARCH WORK IN HORTICULTURE.—At the annual meeting of the Society of American Florists and Ornamental Horticulturists (*sic*), at Milwaukee, on September 20, Mr. WILLIAM SCOTT, of Buffalo, read a resolution, which was adopted, asking the Department of Agriculture at Washington to build greenhouses, as some of its experimental work, and to attempt to solve the problems of the florists in plant nutrition, propagation, and culture, as it did the farmers' problem. The Agricultural Department has greenhouses and makes a superb floral display in its home grounds, but it might well go much further. If it be suggested that the element of utility is lacking, because flowers are not edibles, we reply that all things which minister to the love of beauty, all things that refine and elevate the mind, are useful. There is practical utility in any and all agencies for improving the race. The æsthetic sense may quite as properly receive the attention of the Department of Agriculture as the appetite for hog and hominy. An art which develops one of the most beautiful flowers from a common pasture weed is not to be lightly esteemed, *Washington Post*.

PUBLICATIONS RECEIVED.—*Beautiful Flowering Trees and Shrubs*, by John Weathers. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.—*Culture of Hardy Tree and Bush Fruits*. By E. K. Toogood, Too, good & Sons, Southampton, price 6d.—*Nature Notes*, October.—*Bird Notes and News*, October.—*Annual Report of the Government Botanic Gardens and Parks, the Nilgiris*, July. Details much good work and improvements made. Many experiments were made with rubber-yielding plants, and with a view to the improvement of the Cape Gooseberry (*Physalis peruviana*).—*The Journal of the Department of Agriculture of Victoria*, July. Contents: Introductory Note to the Year's Forage Experiments, Sir W. Wallace; Co-operative Forage Experiments in Southern Victoria, F. J. Howell; Agricultural Society as an Educational Medium, H. Pye; Variety Tests of Wheat, D. McAlpine; Victorian Fruit in London, F. M. Sinclair, &c.—*The Agricultural Gazette of New South Wales*, August. Contents: Diseases of Plants, N. A. Cobb; Strawberries and Potash Salts; Crops from Experimental Seeds, Haywood Bros.; So-called Native Fodder Plants not always Edible, J. H. Maiden, &c.—*Central Experimental Farm, Ottawa, Canada*, Plum-culture, W. T. Macoun.—*The Queensland Agricultural Journal*, August. Contents: Sorghum Poisoning, Desirable Improvements in the Cultivation of Maize, Utility of Motor Cars and Light Tramways for Agricultural Districts, Science and Fruit Culture, and various other articles on crops and stock.—*Twenty-eighth Annual Report of the City of Boston Department of Parks*, to January 31, 1903. Mentions various additions to and enlargements of open spaces, and gives illustrations of some of the successful plantations.

BOOK NOTICE.

A SHORT TREATISE ON CARNATION GROWING FOR PLEASURE AND PROFIT. By R. F. Felton, F.R.H.S. Price 6d. Published by Robinson, Pickering & Hunt, St. Dunstan's Hill, E.C.

THOUGH Mr. Felton writes his treatise on Carnation-growing as a source of pleasure as well as profit, it was scarcely necessary for him to "touch somewhat severely" on the culture of the flakes and bizzars for exhibition purposes, seeing that these types of Carnations have a great fascination for a large number of persons, and especially for those of the artizan classes who have small gardens with the means of protecting the plants during winter. Mr. Felton may not be aware of the fact that the demand for named exhibition Carnations is a very large one, and that the production of such plants is really an important industry. He is, however, bound to admit "that Carnation lovers of all classes owe a great debt of gratitude to this type of growers, as but for their early efforts we should never have had our lovely Carnations of to-day." To write of the Malmaison Carnation as of "general intility" savours of prejudice; nor is it correct to state that it is "a flower for the richer classes only," as many amateurs with small gardens cultivate it successfully. To large numbers, the size of the blooms of the Malmaison Carnation is one of its chief recommendations; and it has been, and can be employed with marked success in floral decorations. One sign of the estimation in which the type is held is the remarkable growth in the number of new varieties of late years. If it be true that in order to get the best results a house must be devoted entirely to the cultivation of the Malmaison Carnation, that "they will not even do with Tree Carnations, as the successful wintering of 'Trees' would be fatal to your Malmaisons; add to the fact that a good man must be employed to grow them, as an ordinary all-round gardener knows nothing whatever about them," these are by no means evils; they afford employment to many specialists, and add considerably to the volume of trade done in flowers. One might object to the cultivation of Orchids on similar grounds. Mr. Felton atones for his depreciation of the Malmaison by furnishing some useful suggestions for the successful culture of the type, and furnishes a list of the most saleable and profitable kinds to grow. And he supplies the following suggestive statistics, supplied by one of his growers, of a year's work in a house 36 feet by 15 feet 6 inches with no artificial heat, and within 5½ miles of St. Paul's Cathedral, which he states will speak for themselves as to the possibility of growing Malmaisons for profit:—

"January to February, house only opened twice; March, commenced careful watering, and plants began to move; June 26 to July 19, cut over £50 worth of blooms; September, sold nearly £30 of rooted layers in 60 pots, and propagated enough to fill another house 30 feet by 9 feet."

In the face of such statistics, it is as words spoken in haste to assert that the Malmaison is a flower of general intility; it is actually one of considerable commercial importance. Mr. Felton praises highly the border and fancy Carnations, which give pleasure to rich and poor alike, and he acknowledges the valuable work done by Mr. Martin R. Smith in furnishing so many fascinating improvements. His highest praise is given to the Tree-Carnations, and that mainly because of their commercial value. That there has been an immense development in the culture of long-stemmed Carnations for decorative purposes in late years is undeniable. Certain varieties adapted for the purpose, such as Mrs. Leopold de Rothschild, Royalty, Madame Melba, Day Dream,

Mrs. T. W. Lawson, La Beauté, Innocence, &c., are grown in immense quantities, many of them in small pots, with one or two main stems of blossoms. This method of culture is carried out in large establishments; it is the quantity produced which makes the business remunerative. The point is to grow certain sorts which produce their blooms on long stems—stems from $2\frac{1}{2}$ to $3\frac{1}{2}$ feet in length. What exquisite vases of long-stemmed Carnations Mr. Dutton and others have produced at the meetings of the Royal Horticultural Society! But they are the products of special culture, quite beyond the means of the private gardener.

Mr. Felton points out the advantages derived from growing Tree Carnations; they flower from April till November without any heat whatever, and given a minimum temperature of 40° , a gentle succession of flowers can be looked for during the winter months. Flowers are popular or otherwise according to the fluctuations of fashionable preferences, but the garden Carnation, which is found in beds and borders, will ever be a source of delight to those who cultivate them; and there is reason to be grateful for every addition which makes for the increased popularity of the flower.

DEVONSHIRE GARDENS.

POWDERHAM.—Within an area of some 10 or 15 miles as the crow flies, and forming points of an irregular triangle, cut through on its western side by the broad estuary of the river Exe, which at this point is about a mile and a half wide, but widening still more as it flows into the open sea at Exmouth, are three notable estates, each situated in the midst of the most beautiful scenery for which Devon is famed. The three estates are those of Powderham, Nutwell Court, and Bystock.

The most notable and interesting, whether considered historically, topographically, or on account of the many noble trees with which the park abounds, is Powderham, the ancient seat of the Earls of Devon; and though in these days, when misfortune has fallen upon the old castle with its park and pleasure-grounds, its unique position, history, and fine trees will ever make it a place of note and a place to see.

The situation of Powderham is in every way beautiful, occupying as it does the whole of an extensive range of hilly ground, rising from the banks of the river, along the edge of which, however, the Great Western Railway runs on its way from Exeter to Starcross, Dawlish, and Teignmouth. The nearest point of access to Powderham by rail is the first-named station, which is within a few hundred yards of one of the lodges. From Exmouth it is also easy of access by a steam-launch, which runs at stated times between Exmouth and Starcross. It is a long drive from this lodge to the castle, through some pretty parts of the park, with fine clumps of evergreen Oaks dispersed here and there, and many well-grown individual trees of *Sequoia gigantea*, Copper Beech, and many others somewhat more common, but all equally flourishing.

From a distance the castle has the usual air of solidity and grim antiquity so closely associated with the ancestral homes of those whose names are as keystones to English history. Built about 1300, the building has had many vicissitudes, and has suffered, perhaps, more at the hands of would-be reformers and restorers than at the hands of time itself. The oldest part of the building is the north-west tower, and perhaps the most modern, as a whole, the dining-hall, the interior of which is more pleasing than the exterior. It was built about 1837 or 1838, and the style of architecture and decoration adopted is Perpendicular. Portraits of the Courtenay family through several generations adorn the walls of most of the rooms.

We might linger over the treasures to be found in other parts of the castle, such as the library, with its old and valuable collection of books, or upon the building itself; but our visit was more especially to the park and grounds, for of gardens there is none in the ordinary acceptance of the term as applied to the surroundings of the ancestral houses of the English nobility, as the castle has not been inhabited by any member of the Devon family for some years. The present Earl, who at the time of writing is celebrating his ninety-third year, is Rector of Powderham, and lives at the rectory, the whole of the estate being let to a private tenant.

Leaving the castle by the great door on the river front we have immediately before us, across the

45 feet high, with a number of thick, almost horizontal branches, both trunk and branches being thickly clothed with cork of very fantastic formation, in some places with deep furrows, and in others with thick overlapping plates. Close by is an enormous *Pinus excelsa*, full of its long tassel-like cones, and an equally fine *Cryptomeria japonica*. *Thuyopsis dolabrata* is well represented by a number of trees, some of which are very large and perfectly shaped. Of these the highest is 30 feet 4 inches, the diameter of the branches 24 feet 8 inches, girth of trunk at 3 feet from the ground 2 feet 8 inches. At Penjerick, in the adjoining county, there is, I am told, a tree that is 40 feet in height. *Thuya occidentalis* also forms a fine tree. A specimen some 45 feet

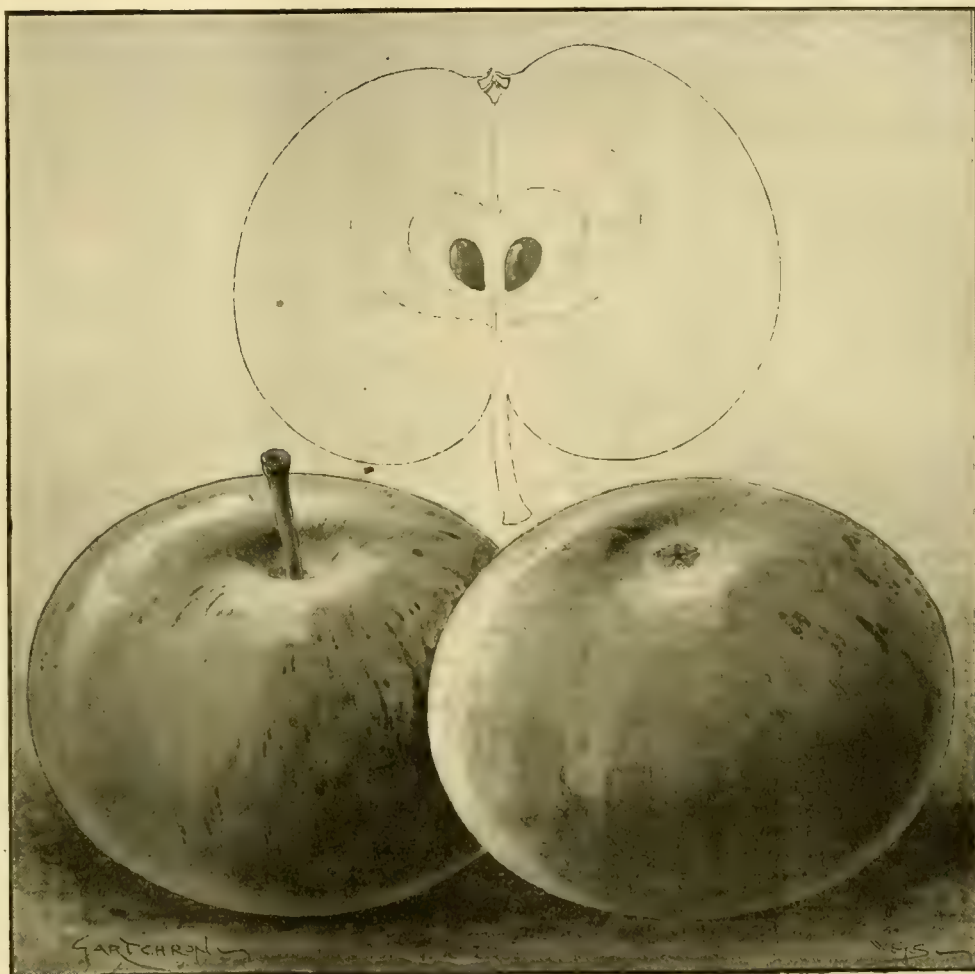


FIG. 123.—NEW APPLE MIDDLE GREEN (FROGMORE PROLIFIC \times BLENHEIM ORANGE).

Raised by Messrs. Jas. Veitch & Sons, and fully described on p. 279 of our last issue.

broad expanse of water, a view of Lympstone; on the left a view of Nutwell Court, the seat of Lady Elliott Drake; and on the right a view of Exmouth. On this front is a splendid Oleander of considerable height, which produces abundance of flowers, and of which it is said the late Earl of Devon was very proud. Close to it, and covering a large expanse of the front up to a considerable height, are some old and magnificent plants of *Magnolia grandiflora* of the Exmouth variety: at the time of my visit these plants were full of flower-buds.

In the grounds contiguous to the castle are many remarkably fine growths in the way of trees and shrubs, and the ground being broken up by a series of steep hills and deep dells and numerous undulations, every tree can be seen to full advantage, either from below or above, such, for instance, as a fine spreading Cork Oak, about

high of *Picea Smithiana* (*Morinda*) is remarkable for its symmetrical form and the regularity of its graceful branches, many of them being over 6 feet in length. The largest *Wellingtonia* (*Sequoia gigantea*) unfortunately lost its leader in a gale several years ago, added to which some of the branches have become misshapen; it has grown, however, to a height of some 75 feet, and has an enormous diameter of trunk.

In the American garden, where *Rhododendrons* and *Camellias* abound, are two very large bushes, which might be better described as trees, the red flowers of which are produced in thousands every season. These plants were said to have been brought home by Sir Joseph Banks. In this part of the grounds is a very remarkable tree of *Eucalyptus coccifera*, about 90 feet high, with numerous wide-spreading branches, the whole of which covers a very large area. The tree is

readily distinguished from the surrounding trees even at a distance by its smooth pale buff-coloured bark, as well as by its narrow leaves and abundance of flowers and fruits with which it is clothed every year, though it does not ripen seed. The tree was figured in the *Gardeners' Chronicle* on p. 789, December 24, 1887. *Eucalyptus globulus*, of course, flourishes and makes a growth of about 6 feet in ten years.

It would take too long to give even a list of all the fine trees and shrubs which luxuriate in these favoured grounds, once so well kept, but now neglected and given over to rabbits and other "wild fowl." We cannot leave the grounds, however, without referring to the magnificent view obtained from the top of the Belvedere, a square tower built in 1795 on the highest point of land on the whole estate. The tower itself is some 150 feet high, and is a prominent object for miles round. Not only is the distant view extensive and varied, both inland and seaward, but the woodland beneath, comprising the whole of the Powderham estate of some 6,000 acres, forms a charming picture in the sinking sun of a summer evening.

BYSTOCK.

On the opposite side of the estuary from Powderham, and about 2 miles north-east of Exmouth and 4 miles north-west of Budleigh Salterton, stands Bystock, an estate of some 800 acres, belonging to the family of the late J. P. Bryce, Esq. Though very beautifully situated, with glimpses of the distant sea, the river Exe, and the Haldon Hills on the opposite shore of the river, the general contour of the whole place is somewhat flat in comparison with the country generally in this part of Devon; the flatness is, however, more imaginary than real, for the whole of the grounds, including those of the contiguous Marley House, from which Bystock is separated only by a road, and which belongs to the same owners, are on the slope of a hill the whole way from Exmouth, and the mass of trees and shrubs which forms the background of the mansion as seen from the surrounding country is very picturesque. Bystock however is a modern estate, and as such lacks much of the interest that is always associated with those possessing antiquarian lore. But it has its points of interest that are not possessed by many other estates of much greater note. We allude to its remarkable rockery, which was erected about 1880 by Messrs. R. Veitch & Sons, of Exeter, and which was fully described at pp. 471 and 475 of the *Gard. Chron.* for April 9, 1881. It is probably one of the largest works ever attempted in the way of cascades, waterfalls, caverns and suchlike adjuncts to a rockery. The rustic nature of the surroundings are carried out even to the extent of a commodious summer-house, built of rough cork in the form of a huge tree-trunk, or, again, a rustic bridge spanning a piece of water, the bridge itself being covered with Clematis, which was in full flower at the time of my visit.

In a work of this nature and extent the lapse of years might have been expected to give tone and reality to the whole; to a certain extent this is the case so far as the stones themselves are concerned, but the want of proper care and attention to the whole structure, including the water supply, and particularly the plants which go to make such a structure a success, is painfully apparent; for evil days have fallen upon Bystock, and the place having been shut up for some years, and since let, the expense of the upkeep of the garden department has been much curtailed, with, of course, the inevitable result of decay and neglect. Notwithstanding this, the rockery, even in its present condition, is the chief attraction of Bystock; but there are other features which make it a place worth seeing—such, for instance, as a curved pergola, some 300 feet

long, covered entirely with healthy young Hornbeams, the bright green of the early summer leaves breaking the power of the sun's rays into a pleasant subdued light, and imparting a cool temperature. Another pergola covered a walk leading to the house, various plants being used to cover it, the chief of which were different varieties of climbing Roses. In the ornamental ponds we noticed, besides the usual Bulrushes and Water-Lilies, several plants in flower of *Richardia africana*, which had stood out all through the winter and had braved the severe frosts of Easter week. Over the stone balustrade, extending the entire length of the terraced flower-garden, *Vitis inconstans* (*Ampelopsis Veitchii*) was growing, the deep red tint of the leaves having a very pleasing effect in the sun, especially when looking along the whole length of the terrace.

Though some portions of the estate are prettily wooded, there are but few individual trees upon which to comment, except a remarkably fine *Pinus insignis* which stands on one side of the lawn, covering a very wide area with its spreading branches. The view from this terrace over the town of Exmouth to the sea, and along the coast towards Berry Head, lends a charm to this part of the garden not to be obtained in far inland places. John R. Jackson, Claremont, Lympstone, Devon.

HOME CORRESPONDENCE.

FLOWERING BAMBOOS.—Considerable interest has evidently been aroused among the gardening fraternity this year owing to the flowering of *Arundinarias* all over England; and I have read with interest the articles and notes on the subject that have appeared in the pages of the *Gardeners' Chronicle*. One of your correspondents remarks on the similarity of the seed of *Arundinaria* to Oats. It will possibly be of interest to him and others to hear the use that the seed of *Arundinarias* is put to in Ceylon, where there are several varieties found. The seed is gathered by the natives and prepared for eating just as they do their native paddy or Rice; and the Bamboo seed is considered rather a treat or luxury. The name for the seed in Singalese is "oona haal," which, being interpreted, means "Bamboo Rice." So that in likening the seed to Oats your correspondent was not far out. The great clumps of Bamboos here present a grand appearance, growing alongside the streams and overhanging the rivers; and the giant Bamboos by the water at the Peradeniya Botanic Gardens are something to be seen. The tenacity to life of the Bamboo must be considerable; Bamboo poles and rods used in our garden as trellis-work or supports for *Allamanda*, *Stephanotis*, &c., are sprouting into leaf at the joints, though the rods looked quite dried and dead when put in the ground. A small length of Bamboo, pretty large in circumference, split longitudinally, makes a capital receptacle for hanging plants, and looks well; they are largely used out here in Ceylon. J. Etherington, Colombo, Ceylon.

SCARCITY OF MUSHROOMS.—There has been a very remarkable scarcity of Mushrooms in all parts of this county and on the downs this year. Would some of your correspondents kindly explain the matter? F. W. Cartwright, Aynho, Banbury.

BORDER CHRYSANTHEMUMS.—I have sent you some early-flowering Chrysanthemums for inspection, which have been raised in Cranford especially for market-growers. The named varieties were put into commerce last year, and those unnamed have been cut from seedlings raised last year and during the present season. All the plants are growing in the ground (the whites and yellows only are protected with lights), thus showing their hardiness and ability to stand even the present bad weather (October 13). G. Shawyer, Hounslow. [We are surprised to see such good quality in flowers grown out-of-doors in the present wet season. Many of them are 5 and 6 inches across, and of bright colours. Some of the named ones are Yellow Prince, Rev. A. H.

Wright, bronze and red colours; Nelly Blake, a very nice reflexed flower of bright-red colour; Black Prince, a crimson flower with buff reverse; and others. But these are not better than several of the seedlings yet unnamed, and the collection is one that illustrates what a good plant the Chrysanthemum now is for decorating the open garden in October. They are hardier and will flower later than Dahlias. Ed.]

RHABDOTHAMNUS SOLANDRI.—Messrs. Le-moine are now offering plants of the above-named curious and also apparently beautiful shrubby Gesnerad, which is fully described by Sir Joseph Hooker on p. 221 of his *Handbook of the Flora of New Zealand*, where he says it is a native of the northern island, and is a slender hispid and pubescent shrub, with opposite leaves and flowers solitary or in pairs, which are light orange in colour, longitudinally striped with brown, and somewhat resembling in shape those of a *Tydaea*. In its native country it grows to a height of from 2 to 4 feet. This should, I think, prove quite an acquisition to our gardens, and may, as so many New Zealand plants have done, prove hardy enough to live out through the winter in mild localities. Even should it not prove hardy, it ought to be worth room in a greenhouse. W. E. Gumbleton.

NERINES.—I have now coming into beautiful bloom in my greenhouse *Nerine ingens* hort. Leichtlin, which I think quite the largest pip and the deepest shade of carmine I have ever seen in this beautiful genus. I have three spikes in my pot. The pure white form, *N. flexuosa alba*, is also coming into flower for the second time with me, but much earlier than usual, as last year it did not come in till mid-November. I also hope to bloom early in the new year two new varieties of *Nerine*—one, *Lucida*, which evidently belongs to a different section of the family, as its foliage is still green; and another not yet named or identified at Kew, which has only quite recently gone to rest. W. E. Gumbleton.

REVERSION IN SEEDLING ODONTOGLOSSUMS.

—I read with great interest the communication from Mr. De B. Crawshaw in your issue of the 10th inst. re "Odontoglossum seedlings," but on carefully considering it I am somewhat puzzled to know exactly what he is trying to prove, inasmuch as the first half of his letter tells us we must not expect seedlings from blotched parents to give us anything but a plain progeny, whilst the second portion of the same seems to insist with great emphasis that it is when the seed-bearing parent is an unspotted *O. crispum* the seedlings all prove their great prepotency to revert to plain forms, notwithstanding the pollen-parent being blotched. May I ask him to say which he is anxious to prove? Is it that spotted parents on both sides do not reproduce themselves, or that if one parent is an unspotted *O. crispum* they show the tendency so strongly to reversion to this type only? The answer to above will much oblige. Richard Ashworth.

CONING OF ARAUCARIA IMBRICATA.—I have lately gathered fertile seeds from a tree growing in the Pinetum here. Is this not somewhat unusual for such a season as the present one? I enclose three seeds. It may interest some of your readers to know that the famous *Araucaria* still stands; very few branches have fallen up to the present time, though it is exposed to south-westerly winds, of which we have had our share recently. About 100 yards away is growing another tree of this kind, which bids fair to rival the old one in point of size. It is also a very symmetrical tree. C. Page, Dropmore Gardens. [The female cone was formed last year, and ripened this. Ed.]

KEW HAND-LISTS.—I have not seen the *Gardeners' Chronicle* since August, but I am told that displeasure is felt at my suggestion (in the case of a few specific names) of the possibility of "carelessness in proof-reading or in compilation" in the new *Kew Hand-Lists*. I, in common with every gardener, owe a debt of gratitude for the issue of these much-needed Lists, and if I have said aught concerning them that has offended the authorities I am sorry. H. M. Batson, October 20, 1903.

THE NEW POTATO, SUTTONS' DISCOVERY.—The new Potato, Discovery, sent out last spring, has proved here to be an exceptionally heavy cropping variety. While all others were badly infested with disease, Discovery stood out prominently. From 1 lb. of seed, each tuber was cut into eyes, I have just lifted 115 lb. of good sound tubers. It is a Potato that I can confidently recommend to all market and large growers of Potatoes. *H. Welch, The Gardens, Rowdeford House, Devizes.*

—My Discovery Potatoes are doing well. A tenant of mine, who got 6 lb., has raised 6 cwt. 2 qr. 10 lb. He says he saw no sign of blight. *W. F. Atkinson, Dunsby.*

THE PROPAGATION OF NORTHERN STAR.—Nothing but praise and that of the very highest is forthcoming for this admirable Potato. Whether or not it will retain the high character formed of it is doubtful when we consider the means taken to propagate it. Many tons will be sold this season, which will be the produce of propagation by cuttings, and although probably the crop so produced will give satisfaction to the grower this season, I maintain and from experience state that this system is wrong, and can only have one ending—rapid degeneracy. Referring to this method Mr. Findlay says:—"That everything possible should be done to put a stop to this pernicious innovation." Surely a warning like this from such an expert will doubtless decide many purchasers to ask for a guarantee, when procuring seeds of this fine variety, that the crop was grown from tubers and not from cuttings. *C. E. C.*

THE WHITE-FLOWERED TOAD-FLAX.—This dainty form of the ordinary purple-flowered type is very beautiful as seen dangling from old walls or rocks on which it delights to grow. Some weeks ago at Warwick I found the soft yellow sandstone walls of the old east gate most beautifully draped with the white variety, which, apart from its flowers, is of a lighter green colour, and produces an effect quite distinct to that of the purple type. The latter is very abundant just at present on the old brick walls at Hampton Court. As is well known, its presence on old brickwork shrines in Italy has earned for it the name of "Erba della Madonna," and I have heard it called "Kenilworth Ivy," but did not see it on the ruins there. *Linaria cymbalaria* var. *alba* is a dainty but by no means an uncommon plant in gardens, but I have never seen it so luxuriant and effective in its beauty as it was on the old gate at Warwick, and it would be interesting to know how it became established so beautifully there. *F. W. Burbidge.*

SEDUM SPECTABILE.—I am sending you a few flowers of *Sedum spectabile* atropurpureum, with flowers of the common variety for comparison. When growing beside *Sedum spectabile*, it makes it look quite a worthless plant. It is not new, but is remarkably scarce. *Amos Perry.*

RAISING CABBAGES AND CELERY.—In reply to "J. D." in a recent *Gardeners' Chronicle*, I fail to see why he wants to build glasshouses to grow Cabbage and Celery. Christchurch is situated in what may be termed sunny England, and the climate admits of the growing of Cabbage and Celery, the former the entire year, the latter for fully five months. A pit with a flow and return pipe, making a slight hotbed at one end to raise the Celery-plants and prick them out, would suffice. The number required—Lettuces, Endive, Radishes, Mustard and Cress, Mushrooms, Spinach, Globe Beet, early Turnips, early Marrows, and also Strawberries for second early use—could be grown much better in pits heated with flow-and-return pipes along the front. No cool house would be needed for any of the above. Low span houses would be needed for Tomatoes, Cucumbers, or Melons. The houses most suitable for the above might be constructed 18 feet in width and 100 feet in length, with four rows of 4-inch pipes for Tomato-growing, and six rows for Cucumber, Melon, and Grape-culture. Peaches could be grown successfully in houses similar to those recommended for Tomatoes. Strawberries in pots could be grown on shelves in the houses, as also thousands of bedding-

plants. I should strongly recommend "J. D." to erect his houses in one block, and have one frame erected against the last house, and erect the pits in rows, with sufficient room between them for wheel or hand-barrows to pass each other. They should be 6 feet wide, with flow and return along the front. There are several good apparatus on the market; the tubular-saddle or Robin Hood I can strongly recommend. If "J. D." has only 2 acres at his command, I should strongly advise him to put glass on 1 acre, and keep the other for summer vegetables and as preparatory ground. If "J. D." requires any other information I shall be very pleased to give it. *R. Poole, Blackstones, Redhill, Surrey.*

AUTUMN-FRUITING STRAWBERRIES.—A few days after the reading of Mr. Jas. Hudson's paper at the Drill Hall on these fruits I was at Gunnersbury House gardens and saw how very strong they were and how freely many of the plants were fruiting on a narrow south border. That was on October 17; but I noticed that all the then most fruitful plants were covered with large bell-glasses standing on three or four pieces of brick. This form of protection may not be essential in ordinary autumns, but seemed to be called for this wet season. The protection might also be useful in keeping birds from molesting the fruits. But it would not be possible for bell-glasses of this kind, both costly and fragile, to be provided by all classes of growers, however easy it is to obtain and to grow the plants; and I could but think that it would be cheaper and better, assuming that the plants remain on the border till the third year, that at the end of August they should be lifted with plenty of soil attached, and be blocked fairly close together into temporary wood-frames, so that the leafage comes close to the glass. In that way fairly cheap protection could be furnished, and when the fruiting was over the plants could be thrown away; whilst the frame, having some short manure added to the soil, could be effectively used for cultivating Endive, and after that was over be filled with Cabbage, Cauliflower and Lettuce plants raised under glass for planting in March or April outside. When the Strawberry plants were put into the frames they need not be covered with lights for a few weeks, as the primary object should be to keep them long or late in fruit. The varieties which I saw at Gunnersbury House under the bell-glasses were St. Joseph, St. Antoine and Oregon. By growing these varieties and affording ordinary methods of culture, late autumn Strawberries should not be difficult to obtain. *A. D.*

THE RECENT GARDENERS' DINNER.—I trust next week, after my committee have again met, to furnish your readers, so many of whom I know are anxious to learn how the accounts stand, the balance in hand, and its disposal. In the meantime, in reply to Mr. Divers' recent letter to you, and similar ones that have come to me from other gardeners, I would say that the committee have not contemplated remaining *en permanence*, but have felt that with the settlement of the accounts their labours were over. Whether as a committee they may next Tuesday care to consider Mr. Divers' suggestion or not I do not know. But it must be admitted that one cause of the success of the recent dinner as a great gathering of gardeners was the comparative rarity of the event. Were such gatherings to be held annually I fear they would soon lack interest, and would be voted commonplace. I should however like to see such a gathering, preceded on the day by a gardeners' conference on subjects of special interest, held once in three years; but such gatherings should be for gardeners alone. *A. Dean.*

CLUBBING IN BRASSICAS.—In your reply to a correspondent in the *Gardeners' Chronicle* of September 19, there are extracts from a previous communication of Mr. Massee. It is stated that the germs of the fungus are hungered out if the soil is kept free from Crucifers for four years. This is directly opposed to my experience, for the worst case of clubbing that has come under my notice occurred this year in a piece of ground that for twenty years had been planted with Dahlias, Chrysanthemums, and once with Potatoes.

Separated from it by a walk is another piece that has been cropped with late Cauliflowers and Broad Beans alternately, excepting twice with Celery, and there is nothing to complain of. I conclude Mr. Massee has not had severe cases to deal with. The time preventive is an old one and sounds very well in theory, but does not work out in practice. Some years ago a farmer told me that he had a field with a roadway through it, and his Cabbages clubbed on one side and not the other. He had applied fresh slaked lime and gas-lime with no benefit. Some years ago I cleared some Raspberries, dug the soil deeply, and manured it, and planted it with Savoy, and they all clubbed. I trenched and planted it again with the same the following year. I threw out shallow trenches and covered the surface of every alternate one with fresh slaked lime, and forked it in, and was rewarded by seeing all clubbing, so I planted it with Black Currant trees and Rhubarb. The Brassica family do well after Rhubarb, also after Strawberries. I have not been able to prevail on my employer to try gas-lime, but a committee of the Lancashire County Council experimented with it and fresh slaked lime and a number of other substances on a piece of badly-infested land near Ormskirk. The crops were Cauliflowers, early and late Brussels-Sprouts, early and late Cabbage, and Swedes. All details may be spared by stating that not one of the dressings achieved a cure. Every plant examined was clubbed, and the general yield miserably poor. *W. P. R. Preston.*

SOCIETIES.

ROYAL HORTICULTURAL.

THE CHISWICK CONFERENCE.

VEGETABLES FOR MARKET.

(Concluded from p. 278.)

Mr. W. LOBJOIT, of Twickenham, followed with a paper on "Vegetables for Market" (in place of Mr. Poupart). He said it would not be questioned that the supply of fresh vegetable food was an important factor in maintaining healthy life in large cities. Yet scarcely anyone would deny that the methods for distributing vegetables among our population are ludicrously inefficient, failing most where cheap and rapid distribution was most needed—namely, when the supply was abundant and cheap, interposing between the consumer and the grower unnecessary changes of hands, and sometimes re-carriage over the same road. London, in area and in population, had outgrown the system that served to dispose of the limited supplies that came in on the carts and barrows of the market gardeners who tilled the fertile lands of Stepney, Bermondsey, Vauxhall, Chelsea, Fulham, and Battersea, and were sufficient to meet the needs of the small population when the Georges reigned. It was hardly possible to-day to conceive of the state of things when Vauxhall Bridge was bordered by market-gardens, when Stamford Street was a walk through flower-gardens, and when there was no over-sea supply. Now there was scarcely a market-garden left within 10 miles of Covent Garden, and very soon the radius would be 20 miles; and cultivators as far south as the Antipodes, as far west as San Francisco, and as far east as Japan were looking to England, and above all to London, as the chief market for their produce. Yet the market area of London had not appreciably enlarged. Greengrocers from the suburbs drive their vans in to take back produce which a few hours previously was carried along the roads, perhaps passing their own doors. It was still the greengrocer's policy to sell a limited quantity at high profit. Would not the draper do the same if he had to fetch his goods in his own conveyance from a market 5 or 6 miles away, and be up in the early hours to do it? Who has not heard that certain vegetables were very dear or not procurable, while the same kinds had been shot out upon the stones at the market for the scavenger to clear—unsaleable? The costermongers performed an invaluable service to the Metropolis by bringing supplies of vegetables that were abundant at cheap prices within reach of the dwellers in thickly populated areas, and even to suburban streets their voice has penetrated, much to the chagrin of the highly-rated greengrocer. It was to be hoped that in those metropolitan districts where the coster question was acute the authorities would bear in mind the highly important part the coster played in supplying fresh and wholesome vegetable food at

cheap prices to the masses, and while making a proper regulation of the highways, would provide the coster with ample facilities for carrying on his calling. Who that had seen the dried, drooping, melancholy specimens of vegetables exposed for sale in the shop of some small suburban greengrocer had not wished for some means for bringing an end to this libel upon the market vegetable? There was as much difference between shoe-leather and Cabbage as there was between this stale outcast of the Brassica tribe and the succulent Cabbage cut fresh from the garden. Could they wonder that the English were not the vegetable-eating people they should be? The system of direct delivery to the shop of the retailer was slowly growing. Perhaps with the extension of motor traction it might become easier. The increase of local municipal markets like that at Brentford would be a great help. They would lessen the distance between grower and buyer, and this nearness would induce retailers to attend the market oftener, instead of getting a two days' supply in one. What he had said applied to London, but a number of Northern and Midland towns were even worse supplied with fresh vegetables than London. Two tendencies might be noticed as having been at work in recent years among cultivators of market vegetables, each possibly an effect of the same economic cause. The one was the cheapening of the methods of the cultivator; the other the tendency to increase the variety of crops grown. At the same time the forcing of some crops had been almost entirely discontinued, and others had in some cases increased enormously. A change was coming over the methods of packing vegetables and sending them to market. In this connection he said that the genius who would invent a machine for washing Radishes, which would reduce the cost by the fraction of a penny, would deserve honour even though he did not make money. The growers of market vegetables might be divided into two classes—those who alternated vegetable crops with corn and agricultural roots, and those who practised intensive cultivation, and devoted themselves exclusively to market garden crops. In thinking of market vegetables, their thoughts naturally ran to that fearful and wonderful production, the seedsman's catalogue. How many nightmares had it been guilty of inflicting upon bewildered market gardeners when it arrived at the opening of the year with its "novelties," "select strains," and "proved specialties" flanked by superlative testimonials and supported by lifelike photographs! In a catalogue before him there were 116 different sorts of Peas named, 29 sorts of Beet, 60 sorts of Lettuce, excluding subdivisions. Of course, like the hotel list of wines, all were distinct sorts, all were in stock, and no fortifying was resorted to.

It was a peculiar thing that certain varieties of vegetable would sell on one market and not upon another. As an instance, Maltese Cabbage-Lettuce was a favourite in the Midlands, but in London that variety was unsaleable, being regarded as too coarse. The smaller and more compact varieties were preferred by the dainty appetites to be catered for in the Metropolis. A word might be said about the inordinate rage for size. Why, for instance, a gross, coarse, giant head of Celery, with leaf-stems that eat like rope yarn, should be preferred to the crisp, nutty, fine-flavoured but small one, was difficult to understand; or why a Parsnip which must be cut before being cooked should be selected for its size, which must often mean coarseness, was also a mystery. Yet "best" in the market terminology always meant "largest." The Londoner did seem to know that a big Radish was pithy. In nothing among vegetables was the rage for size more remarkable than in the Cos Lettuce. Large Cos Lettuce this summer had been selling at 1s. 6d. a dozen, when smaller ones could with difficulty be disposed of at 6d. per score of twenty-two. And yet who ever saw a Cos Lettuce sent to table whole? In the case of the Tomato the demand for fruit of a moderate size came not from the consumer, but from the retailer, who found that with large Tomatoes it was so difficult to get the exact pound weight, that he frequently had to give over-weight—the practice not yet being in vogue of charging for the additional ounces as it was among the butchers. There were some vegetables which would probably never obtain a permanent place in the list of English market vegetables, owing to the precarious nature of our climate. He instanced Corn Cobs of Maize, and the fruit of the Purple Egg-plant, called by the French "Aubergines." In the matter of Endive the English growers never seemed to be able to keep pace with their Continental competitors.

While enterprise, skill, and study had done much both to improve the character, increase the variety, and develop upon right lines the cultivation of vegetables, much more remained to be done. Some that were acceptable upon our tables but would not stand the rigours of our climate might yet, by careful selection and judicious crossing, be led to develop the necessary hardihood and vigour. The industry was without doubt an important one, both from the point of view of the public health and of the large amount of labour it employed, to say nothing of the increased rent land used for market gardening was privileged to earn for its owner. With the continual growth of the population, home-grown vegetables could not recede in importance, whether the whirligig of politics brings us a change in fiscal policy or not. Yet the market gardener remained the agricultural pariah. The Central Chambers of Agriculture had no time to devote to such insignificant items as fruit and vegetable growing. The Department of Agriculture had not made up its mind whether "market gardener" is a term which represents a distinct calling. This was not to be wondered at when a great Society, which should be nameless, failed to provide a single class in its schedule where in any of its shows the market gardeners could compete among themselves, and some demonstration be afforded the public of how the fruits and vegetables which they got were sent to market. Doubtless the same public was more interested in the manner in which the fruit and vegetable world supplied the quota to the menu of the millionaire and the aristocrat. Reverting to the market accommodation, the grower who sent his goods to any London market and sold them himself had still, like his predecessors centuries ago, to sell his goods upon uncovered stands, exposed to all weathers. He could have no security in his market tenancy, nor any goodwill; and while obliged to transact his business in the small hours of the morning, he must put up with what apology for light he could get.

On the motion of the Chairman a vote of thanks was accorded to the readers of the papers. It was stated that other papers on the cooking of vegetables, by Dr. Bonavia and Mr. James Hudson, would not be read, but would be printed in the official record of the proceedings.

Scientific Committee.

OCTOBER 13.—*Present*: Dr. M. T. Masters, F.R.S. (in the Chair); Messrs. Saunders, Worsdell, Massee, Gordon, and Holmes; Drs. Rendle and Cooke; Revs. W. Wilks and G. Henslow (Hon. Sec.).

Male Figs.—Dr. MASTERS observed that he had several instances of Figs sent to him that failed to ripen. They were remarkable for containing entirely male flowers; ordinary Figs being entirely female, but ripening without fertilisation, except in the case of the Smyrna Figs, which require "caprification."

Potato Disease.—Dr. COOKE replied to enquiries as to the transmission of the mycelium from the leaves down the stem being the only means of reaching the tuber. His opinion was that the disease may be communicated direct to the tubers while young and with a delicate skin, or when bruised or wounded.

Clematis Parasite.—He also reported on a new disease, which Mr. Chittenden named *Ovularia clematidis* and exhibited at the last meeting. Dr. Cooke supplied a technical description of the fungus, and adds: "No experiments have been made to check this parasite. If it should establish itself, it would be well to try flowers-of-sulphur at first, and if this be not successful to use Bordeaux-mixture."

Vegetable Monstrosities.—Mr. WORSDELL exhibited a spray of *Pelargonium* with foliaceous bracts at the base of the umbel, and a fasciated peduncle; also flower-heads of *Scabiosa purpurea* with proliferous axis. Mr. Wilks observed that this is particularly common on German plants.

Lilac injured by insects.—Mr. GORDON showed branches attacked by some insect, on which Mr. Saunders had reported as follows:—"The Lilac-leaves were injured by the caterpillars of a small moth, one of the *Tineina*. The caterpillars had taken their departure from the leaves, and had no doubt buried themselves in the ground beneath the bush and become chrysalides within a couple of inches of the surface. I should recommend that a good dressing of kainit should be given, and that it should be chopped in with a hoe; this would probably kill a number of them. When the leaves are opening in the spring another dressing would be useful to prevent the moths making their way to the surface."

Warty disease of Potatoes.—Mr. GORDON also exhibited Potatoes badly attacked by *Chrysophytis endobiotica*

(see *Gardeners' Chronicle*, 1903, p. 187, fig. 81). This fungus was introduced from the Continent, and first appeared in Cheshire. It has completely destroyed crops in allotments this year in Nottinghamshire.

Wound parasite of Apple-trees.—Dr. COOKE also reported upon some examples brought by Mr. Chittenden. The fungus is *Hydnum Schiedermayeri*. It formed a strip of about 4 feet in length growing through the bark. This fungus is said to be very destructive to Apple-trees, the spores entering through a wound in the bark.

Tomentum on Vine-leaves.—Dr. BONAVIA sent leaves to show how closely natural wooliness, or tomentum, resembled the red-spider's web, and that it was impossible to distinguish between them by the naked eye. Mr. Saunders observes—"I should not think it could be possible for anyone to distinguish between the tomentum on the leaves and the web spun by the red spiders with the naked eye, unless the webs only covered parts of the leaves, in which case the undersides of the leaves would have a patchy appearance; but the similarity between the web and the tomentum is so great, that otherwise no ordinary eye could detect the difference. Under the microscope the threads of the tomentum are twisted, and do not lie so straight as the threads of the webs."

YORKSHIRE NATURALISTS' UNION FUNGUS FORAY.

SEPT. 26 to OCT. 1.—The annual Foray was held at Helmsley on the above date. The weather on the whole was favourable for collecting, and, owing to the climatic conditions that have prevailed throughout the year, fungi were abundant. Not only in the fine old Beech and other woods, but also in pastures—a feature of somewhat rare occurrence—fungi were very much to the fore; in fact I think it may be stated without fear of contradiction that never before, during the many years on which forays have been held in Yorkshire, has such a number of interesting and unusual species been noticed, save at that exceptionally rich locality near Whitby called Mulgrave Woods, where, independent of the nature of the season, a plentiful harvest of rare and interesting species can be relied upon.

Even a very rainy season does not suit all fungi, as the dark-spored kinds were practically absent. The genera containing the largest number of species were *Hygrophorus*, *Cortinarius*, and *Clavaria*. *Pholiota squarrosa* was quite a feature of the district, occurring everywhere in dense clusters of magnificent specimens round the roots of old Ash-trees, to which it practically confined its attention. Such Ash-trees are, we are afraid, doomed to perish in the near future. *Armillaria mucida* and *Bulgaria inquinans* were also observed on some of the fine old Beech trees in Duncombe Park. The short grass on the beautiful terrace overlooking the stately ruins of Kiveaux Abbey actually bristled with specimens of *Mitrella viride* and *M. olivacea*. Species of *Geoglossum* and of *Helvella* were not uncommon.

Considerably over four hundred species were recorded for the district. Among rarities may be enumerated *Hygrophorus melizeus* and *Marasmius lagopus*, both new to Britain. A beautiful large indigo-blue species of *Entoloma*, thought at the time to be *E. ardosiacum*, proves on careful examination to be an undescribed species. It differs from allies *E. Badhami*, *E. madidum* and *E. ardosiacum*, among other characters in having smooth elliptical spores. It will be called *Entoloma Farrahi*, after its discoverer, Mr. J. Farrah, F.L.S., of Harrogate.

Just how many of the species observed may prove to be new to the Yorkshire Flora is not yet known, but, as usual, there will be many. While on this topic, it may be well to mention that *The Fungus Flora of Yorkshire* is in course of publication, and it is expected that the work will be completed during the forthcoming year. This work, the first independent county Flora of its nature, will not be a bald list, but is founded on a biological basis, hosts, habitats, parasitic or saprophytic nature, and other features being indicated.

During the foray the Society was honoured by the presence of Professor F. G. Atkinson, of Cornell University, U.S.A. Professor Atkinson is one of the foremost among mycologists in the United States, and those who know his valuable book on Fungi, illustrated by numerous admirable photographs and coloured plates, can readily understand that whatever his social position at home may be, at the foray we only detected the true student who for the time was equally amiable to all, rich and poor alike, who were present with a common object in view. What a pity we cannot say this of everyone professing to a liking for the study of fungi!

An encouraging feature of the Yorkshire Society is the fact that young and enthusiastic recruits are constantly joining the ranks; and the papers submitted by some of the younger members suggest in unmistakable terms that the older members will at no distant date be surpassed. This is as it should be.

As showing the exceptionally good season for fungi, it may be mentioned in conclusion that two of the

Yorkshire members, C. Crossland, F.L.S., Halifax, and A. Clarke, Huddersfield, came up to London to attend the Fungus Show organised by the Royal Horticultural Society, and spent a very pleasant and instructive day in Epping Forest, accompanied by the writer of this note. Fungi were exceedingly abundant, and Mr. Clarke was fortunate in collecting a very fine tuft of *Collybia planipes*, a species new to Britain. *Geo. Massee*.

DUTCH HORTICULTURAL AND BOTANICAL.

SEPTEMBER 30.—On the occasion of the meeting of the Floral Committee on the above date First-class Certificates were awarded to Dahlias Baron G. de Grancy, Glory of Baarn, Queen Wilhelmina, and Prince Henry, as new plants; a new race of single Cactus Dahlias of great circumference, a splendid novelty of Dutch origin, from Mr. H. HORNSVELD, at Baarn; to Clematis Jackmani rubra (syn. Cl. Gloire de l'Exposition 1900), as a new plant, from Messrs. WENTINK & Co., Boskoop; to Cactus Dahlia Minnie Wert, as a new plant, from Messrs. VAN NAMEN BROTHERS, at Zwijndrecht; E. H. KRELAGE & SON, at Haarlem, and G. F. HEMERIK, at Leiden; to Cactus Dahlia Coronation; to C. D. Mr. Seagrave; to C. D. Etna, as new plants, from Messrs. E. H. KRELAGE & SON, at Haarlem; G. F. HEMERIK, at Leiden; and J. G. BUNGE, at Heemstede; to C. D. Hir, as a new plant, from Mr. G. F. HEMERIK, at Leiden. Certificates of Merit were granted to C. D. Eva, as a new plant, from P. J. G. FIMMERMAN, at Vegstgeert, and G. F. HEMERIK, at Leiden; to C. D. N. F. Robertson, as a new plant, from P. J. G. FIMMERMAN, at Vegstgeert; G. F. HEMERIK, and E. H. KRELAGE & SON, at Haarlem; to C. D. Prince of Orange, as a new plant, from G. F. HEMERIK, at Leiden; and E. H. KRELAGE & SON, at Haarlem; to Musa Arnoldiana and fifteen Musar eligiosa, as newly imported plants, from the Rijks Tuinbouw School at Wageningen; to Boltonia levigata, as a newly imported plant, from Messrs. WEZELENBURG & HARPEN, at Leiden.

READING & DISTRICT GARDENERS' MUTUAL IMPROVEMENT.

OCTOBER 12.—The fortnightly meeting was held on the foregoing date, Mr. Leonard Sutton in the Chair. Mr. G. WYTHES, V.M.H., gr., Syon House, Brentford, gave a lecture on Strawberries and their culture. As the lecturer is well known to most of those present as an authority on Strawberry cultivation and as an extensive grower, much was expected by the members, and it was a source of gratification to all present that the expectations formed were more than realised. The subject was treated exhaustively and in a plain and thorough manner. The points touched upon were—the preparing of plants for forcing, varieties for forcing, the routine of cultivation, Strawberries in the open ground, prolonging the season, culture after planting out, alpine and other small-fruited kinds, and lastly Strawberries as annual or yearling plants.

A discussion followed; those taking part in it were the President and Messrs. Fry, Powell, Judd, Exler, Hinton, Turnham, Townsend, Gibson, and Tunbridge. On account of the prevailing rough weather, the exhibits were less numerous than usual.

A Certificate of Cultural Merit was awarded to four especially fine fruits of Sutton's Royal Jubilee Melon, staged by Mr. G. HERRIDGE, gr., St. Peter's Hill, Caversham. Mr. DURRANT, gr., Preston, exhibited a plant of Begonia with yellow flowers. There were about eighty members present, and seven new members were elected.

LIVERPOOL.

GRAIN, ROOT, AND FRUIT SHOW.

THE fourteenth annual show of the above Society, held near the North Hay-market, was very successful. The seventy-six classes comprising the schedule brought a great competition, and the show of Potatoes was excellent.

POTATOS.

The best white early kidney was Sir J. Llewellyn, from Mr. B. ASHTON; and white early round, Sutton's A. 1, from Mr. GEORGE ASHLEY. The best second early kidney was Crocus, from Mr. J. ECCLES; and second early round Windsor Castle, from Mr. E. DAVIES.

The display of Early Regent, Lord of the Isle, Reading Giant, Abundance, Maincrop, and Reliance, will long be remembered, there being not a faulty dish staged.

There was a class for Up-to-date, General Roberts, or Scottish Triumph, and no fewer than twenty-five dishes were exhibited. Mr. E. ALTY taking honours with a grand dish of Up-to-date. The best late kidney was Bank of England, from Mr. J. PARKER; and the best late round, Industry, from Mr. E. DAVIES.

The best coloured early or second early kidney and round were Reading Russet and Peerless Rose, from Messrs. E. ALTY and J. HAYCOX; and the best late kidney and round varieties were Edgemoor Purple and Adirondack, from Messrs. T. REASON and J. R. CARTER.

The heaviest six tubers were Reading Giant, weighing 15 lb. 4 oz., staged by Mr. J. NEEDHAM.

NEW VARIETIES.

Early or second kidney or round. Messrs. B. ASHTON and J. JOHNSON, with Webb's Guardian, and Lord Curzon. The best late kidney and round varieties were Cramond Blossom and Evergood.

Messrs. Suttons' prizes created much interest, Mr. T. REASON winning for three dishes with Satisfaction, Abundance, and Favourite. The best single dish was one of Satisfaction, from Mr. DAVIES.

For Messrs. E. WEBB's prizes, the best dishes of early kidney and round varieties were from Messrs. B. ASHTON and J. JOHNSON, being Wordsley Pride and Renown (Webb's). The best late kidney and late round varieties being Motor and Goldfinder from Messrs. J. PARKER and J. HAYCOX.

Fruit was not shown so extensively or so well as in previous seasons.

TRADE EXHIBITS.

Messrs. DICKSONS, Ltd., Chester, had fifty dishes of Potatoes. Very conspicuous were Pioneer, an extra fine late kidney; The Dickson, a clear mid-season kidney variety; New Century, and a capital dish of the noted Northern Star.

Messrs. WEBB & SONS, Wordsley, showed Windsor Forest, and Standup Wheat and Malting Barley; and Messrs. GARTON, of Warrington their Pearl Wheat, Abundance Oats, and Excelsior Black Oats. *Orchid*.

HORTICULTURAL MUTUAL IMPROVEMENT SOCIETIES.

Beckenham Horticultural.—This Society opened its Winter Session on the 16th inst. There was a good attendance, and a lecture was given by Mr. Cecil Hooper on the "Spraying of Fruit Trees, and Apple Packing as Practised in Canada."

In the course of his lecture, Mr. Hooper said that winter was the best time to treat badly infected trees, because a much stronger solution of insecticide may then be used with safety. The operation should be done several times, the last time being just before the buds expand. Mr. Hooper recommends caustic soda 8 to 10 lb., with 1 lb. of soft soap to 50 gallons of water; also carbonate of potash 6 lb., with 4 lb. soft soap to 60 gallons of water. For summer spraying Paris-Green was a very effectual remedy against hibernating caterpillars, Codlin-moth, aphids and the like. For fungoid diseases the Bordeaux-mixture was a good remedy. It consisted of copper sulphate 2 to 4 lb., to 40 gallons of water, with 3 or 4 lb. of lime. Mr. Hooper gave some interesting details of how Apples were packed in Nova Scotia.

Manchester.—The annual meeting of this flourishing society was held on the 9th inst., when there was a large attendance. Mr. James Brown was re-elected President, and the following gentlemen Vice-Presidents:—Alderman Gibson, and Messrs. W. W. Kirkman, A. Stansfield, T. Berry, R. Tait, F. Robinson, P. Weathers, W. B. Upjohn, W. Elkin, S. Gratrix, and E. W. Hughes, the two last being newly elected; Mr. R. Tait, Hon. Treasurer; and Mr. Charles Paul, Hon. Secretary.

After the meeting sixty of the members dined at the Grosvenor Hotel, Mr. Jas. Brown presiding, who, after the usual loyal toasts, proposed "Prosperity to the Society." The horticulturists of Manchester and the district, he said, were still striding forward, despite all drawbacks. He had to congratulate them on the continued and increasing prosperity of the society.

Mr. A. Stansfield, senior Vice-President, in responding, said that as one who had been in at the birth of the society, and had assisted, along with one or two other survivors there present, in rocking the cradle of the infant that had now attained to a lusty manhood, he had always taken, and should continue to take, the liveliest interest in its welfare. Their society, inaugurated wellnigh a quarter of a century back, had now not only turned the corner, but had arrived at a state of prosperity that must be gratifying to all of them.

Mr. R. Tait, Hon. Treasurer, gave a most interesting account of the financial vicissitudes of the society during the period of its existence. He stood indebted to the society, as their treasurer, in quite a substantial sum.

Mr. F. Robinson also spoke at some length.

Bristol and District.—The opening meeting of the Winter Session was held at St. John's Rooms, Redland, on the 15th inst. A lecture was given by Mr. J. C. House, of Coombe Nurseries, Westbury-on-Trym, on "Hardy Perennials." He gave an exhaustive list of the favourite species and varieties, with cultural directions for each.

A special feature of the evening was a magnificent collection of fifty varieties of perennial flowers grown at Messrs. ISAAC HOUSE & SONS, Coombe Nurseries, which, notwithstanding the inclement weather, were remarkable. The Society unanimously awarded a Certificate of special Merit for this display.

Prizes for six bunches of Perennials were awarded to A. BAKER, Esq. (gr., Mr. Orchard); Lady CAVE (gr., Mr. Poole), and J. C. AIKEN, Esq. (gr., Mr. Clarke).

For a basket of autumn foliage and berries, the prizes went to Mr. R. AMBROSE, Mr. CARY, and Mr. R. POOLE.

Obituary.

JOHN LYON.—The death of Mr. John Lyon, steward to W. E. Denison, Esq., Ossington Hall, Newark, is recorded in the *Newark Advertiser*. Deceased was appointed gardener at Ossington in 1868, filling the position until 1889, when he was appointed steward upon the same estate. Mr. Lyon, who was a native of County Down, was spending a short holiday in Ireland, when he was overtaken with a fit of apoplexy, which he survived only twenty-three hours. Deceased was greatly respected, and during the time he was gardener at Ossington showed himself to be a first-rate cultivator.

LAW NOTES.

RE JAMES SMITH, NURSERYMAN, PALM HILL, OXTON.

THE above-named debtor appeared for his public examination at the Birkenhead Bankruptcy Court before the Registrar. A statement of affairs filed by the debtor showed £690 of debts and £1,393 of assets, or a surplus in his favour of £789. Replying to Mr. Williams (Assistant Official Receiver), the debtor said his statement showed contingent liabilities in addition to the £604 amounting to £2,349, which were debts belonging to the firm of Smith & Matthews, in which he was a partner. He had been in business about twenty-seven years. Up to a very recent period his business was quite successful, and it was only within the last five or six years that he had any difficulties. He attributed the falling off in the business in recent years in large measure to the competition in the cut flower trade, greengrocers and hawkers taking it up, which made a considerable reduction in the returns from the sale of cut flowers. The large importation of plants and flowers from Belgium sent many people into the retail trade, damaging the profits very much.

ENQUIRY.

CELLULOSE AS A COVERING FOR FLORISTS' FLOWERS' AND FLOWER-BEDS.—Will some of our readers kindly inform A. McL. where he may obtain large sheets of celluloid for purposes as above stated?

ANSWERS TO CORRESPONDENTS.

ASPARAGUS SPRENGERI: Alan. As a foliage plant.

BOOK ON BENEFICIAL INSECTS: J. G. Blakey. There is no collective work on beneficial insects; but you will find useful information in Miall's (L. C.) *Injurious and Useful Insects* (G. Bell & Sons, 1902), and also in *Agricultural Zoology*, by F. V. Theobald (Wm. Blackwood & Sons, 1899).

BOOKS: X. Y. You should obtain our *Cottage Garden Calendar*, price 3d., or *The Book of Vegetables*, by G. Wythes, together with chapters on the History and Cookery of Vegetables, published by J. Lane, The Bodley Head, London. Price 2s. 6d. net.

BUTTERCUPS ON PADDOCK: G. H. S. Heavy dressings of manure will benefit the grass at the expense of the weed. Spudding out the roots is necessary if the plant is very plentiful.

CARNATIONS: A. B. The appearance of the leaves is consistent with the presence of minute eel-worms. Sterilise the soil by baking it before use.

CELERY LEAF-SPOT: A. W. G. The rusty spots on the leaves are caused by *Septoria petroselinii*, the mischief being confined to the leaves. Spraying with Bordeaux-mixture may prove beneficial. There is no trace of fungus disease in the root-stock. On some leaves we also found the scattered perithecia of what appeared to be a minute *Phoma*, but I failed to discover any conidia. M. C. C.

CHRYSANTHEMUM SPORT: A. J. B. This rich golden-coloured, slightly hirsute variety may be worth keeping. We know of no hirsute flower of the same shade of colour. Before

this can be proved it is necessary to see better cultivated blooms. The next meeting of the Floral Committee of the National Chrysanthemum Society will be held in the Essex Hall, Essex Street, Strand, W.C., on Monday next, October 26.

CINERARIA WILT: *S. McC.* The leaves furnish no clue to the disease. There is no fungus present, and we can only suggest that it should be watched and studied on the spot, and with all its surroundings. No part of the plant contains any fungus mycelium, and we fail to find any trace of bacteria, which latter cause the condition of the plants appears most of all to suggest. *M. C. C.*

CLIMBERS FOR A WINDOW: *W. W.* Varieties of Clematis, such as calycina, Jackmani, and flammula; Lonicera japonica aureo-reticulata variegata; the smaller-growing Ivies, either variegated or green-leaved; Passiflora corulea; Rose W. A. Richardson, Jaune Desprez, Devonensis, and Zephyrine Drouhin; Cobaea scandens, and many summer-flowering annual plants. Better plant in the spring unless it is your intention to grow them in pots or tubs, in which case plant forthwith.

CORRECTION. Mr. Walter's estate in Berkshire should be written as "Bear Wood," and never "Bearwood."

CYPRIPEDIUM: *H. A. A.* The column bears on each side an anther with pollen. Beyond these anthers the column divides into a staminode, which is sometimes prolonged at the base on each side into a curved process which you call a spur. Beneath and in front of the staminode is the stigma, usually three-lobed or three-sided. The upper surface of this is viscid. You should remove the pollen from the anthers by means of a camel-hair pencil, and place it (the pollen) on the upper viscid surface of the stigma, and await results.

DISFIGURED GLOXINIA AND BEGONIA-LEAVES: *S. McC.* The injury to the various leaves is due to a mite, which can be destroyed by dipping in or syringing them with moderately strong Tobacco-water. It is prudent to examine the foliage of Begonias and Gloxinias weekly from the earliest stages, taking measures to arrest the injury as soon as it is noticed, and not leaving the matter till browning has occurred.

GARDEN REFUSE AND STABLE LITTER: *J. B.* If you will mix the straw litter intimately with vegetable trimmings and green garden refuse, making flat heaps of 4 feet high or more, fermentation will be set up in a mild degree, followed by partial or complete decay, according to the time the heap is allowed to remain undisturbed. An application of liquid manure would hasten fermentation. Let the heap be turned and the contents mixed together in about six weeks of making it as before. It should be ready for use in January. The contents of the heap might be screened or sorted over and the grosser undecayed parts taken out and put into another heap to decay still further, or they may go into the bottom of trenches in double digging or trenching the land. The artificial manures suggested would be beneficial, so would quicklime strewn over the half-decayed manure. Blood and fish manure, the so-called guanos, potash, soot, are all of them good. Spent Mushroom bed dung does very well for dressing flower beds, as a mulch, as a manure for early Potatoes, salad plants, pot-herbs, grass-land, &c.

GRAPES: *Gardener.* The Grapes are in a bad state, but are too far gone to diagnose the original disease. At present the berries are covered with the common blue mould, which is not a parasite, but which, by its mycelium and conidia, covers and masks any previous disease. The Grapes, being quite ripe and pulpy, assist in concealing the primary cause. After all, there is no trace left of any other fungus, and the cause may be quite of another kind. *M. C. C.*

GRAPE-VINES AND RED-SPIDER: *T. P. T.* The spider is quite capable of doing the damage to the Vines of which you write. A dry state of the air always favours the increase of red-spider out-of-doors and under glass. When

first observed on the Vines every affected leaf should be sponged with soapy water, and the foliage examined afterwards every few days. The vinery must be kept moist in reason and the leaves syringed daily, but not wetting the bunches. Let the walls and hot-water pipes be well cleansed first and then lime-washed, mixing flowers-of-sulphur in the lime-wash. Two coats would be better than one. Take out the top soil of the border and replace it with fresh loam and stable-manure. If the vinery remain empty in the winter, open the ventilators day and night, except in the severest weather. The hot-water apparatus should be emptied of water, otherwise slightly warmed on frosty nights.

HOLLY: *C. E. J.* We find a fungus on the bark (Nectria), similar to that which causes canker in Apple-trees; but we cannot be sure that it is the primary cause of death. Probably the roots have got down into something unsuitable to them.

INJURY TO THE SKIN BY RHUS TOXICODENDRON: *Lady R. Brown.* This plant is capable of causing intense itching accompanied by a slight rash on the skin of some persons; but if the skin be not rubbed or scratched, but goulard-water used instead, the symptoms abate in a few hours. The effects of contact with the leaves are usually greater if the person is perspiring freely.

LAWN: *Constant Reader.* If the lawn is not mossy or rushy, it may be assumed that in regard to drainage the soil is all right. If moss exists in the shade and nowhere else it will suffice to dress it with loam two-thirds, wood-ashes made from green wood or trimmings of trees and shrubs and fresh lime together, one-third. If it be very poor and the grasses weak employ a dressing of decayed stable-dung and lime, with less loam, scratching the worst places with an iron rake and sowing grass seeds forthwith. Let the manure lay on the grass till early in March, then rake off and roll well.

LAWN GRASS: *C. B. H. E.* Unless you send some of the turf for our inspection we are unable to diagnose the case.

MANGOSTEEN: *S. K. D.* See *Treasury of Botany*, vol. 1, p. 519; *Botanical Magazine*, tab. 4897.

MARKET TALLY AND BUNDLE OF CELERY: *W. J.* The number in a tally is 66, and in a bundle of Celery twelve heads.

NAMES OF FRUITS: *Geo. Stagg.* The large-berried bunch is Gros Colmar, and the other Gros Maroc. We can discover no peculiar flavour in the latter berries, which are perfectly natural.—*J. H. Walker.* 1, Lord Lennox; 2, Beauty of Kent; 3, Radford Beauty; 4, Muffin's Seedling.—*E. J. Motteux* Seedling or Beachemwell is quite correct; the other Apple is Wellington.—*G. S. 1*, Moore's Seedling; 2, Hoary Morning; 3, not recognised; 4, Stirling Castle.—*Rev. F. W. Mason.* Miller's Glory is correct; a very fine fruit, heavy and of excellent quality; Cellini.—*W. H.* Seek no farther; this is quite distinct from King of the Pippins.—*J. S. 1*, Potts' Seedling; 2, Warner's King; 3, Northern Spy; 4, Bedfordshire Foundling; 6, Tower of Glamis; 7, Hollandbury; 8, Pear Beurré Diel.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*Julia S. Bode.* Hippophae rhamnoides.—*R. L. Rugeley.* 1 and 2, both Amelanchier canadensis, of which there are many forms.—*Z. A. (Mrs. N.).* 1, Cladrastis tinctoria ("tree"); 2, Punica granatum (Pomegranate), the so-called berry is a flower-bud; 3, Ceanothus azureus.—*W. A. J.* Amelanchier canadensis.—*A. J. H.* The name of the Starry Puff-ball is Geaster fornicatus; you will see drawings in colour of all the British Geasters in the Public Gallery (Botany) at the British Museum (Natural History), Cromwell Road.—*R. J. 1*, Oncidium lanceanum; the climbing plant is Ampelopsis Veitchii, and the Thorn Crataegus coccinea. On another occasion please do not pack plants and fruits together, but send them in separate packages.—*H. W.* Eucomis punctata. It flowers in summer and autumn.—*Ash.*

Ceanothus Gloire de Versailles.—*Erica.* Calluna vulgaris, white variety.—*G. H. S.* Cypridium Spicerianum.—*U. S. 1*, Restrepia antennifera; 2, Colax jugosus; 3, Lycaste leucantha; 4, Oncidium candidum, often called Palumbina candida; 5, O. microchilum. It is often imported with the handsome O. splendidum, which it much resembles in growth; 6, Odontoglossum Wallisii.—*F. J. Burnet.* Odontoglossum tripudians.—*W. T. Cardiff.* Phyllanthus nivosus var. roseo-pictus; Juglans, French or large-fruited.—*G. H. S. 1*, Dracocephalum virginicum; 2, Astrantia major; 3, Silphium laciniatum; 4, Polygonum sp.; 6, Polydora sp., no flower left; 8, Callicarpa purpurea.—*A. M., Darlington.* 1, not found; 2, Lastraea filix-mas polydactyla; 3, Polystichum angulare proliferum; 4, Lastraea aristata; 5, Genista sagittalis; 6, Ilex Aquifolium latifolia.—*T. H. O. P. 1*, Ophiopogon Jaburan variegatum; 2, Curculigo recurvata; 3, Farfugium grande; 4, Hymenocallis or Pancratium fragrans. The leaf seems to have been attacked by red-spider. *J. M. 1*, Phygellus capensis; 2, Nephrolepis tuberosa; 3, Asparagus procumbens; 4, Cupressus funebris; 5, Euonymus radicans variegata; 6, Pellaea (Platyloma) rotundifolia.—*J. B. 1*, perhaps Catalpa bignonioides; 2, Platanus acerifolia.—*P. J. L.* Spiraea Aruncus.

ROOT FUNGI: *A. W. G.* The roots of Anemone japonica are thoroughly infested with the white mycelium of "root-mould." Probably this has been derived from some old buried stumps which pervade the soil, and the fungus becoming parasitic, attaches itself to the roots of living plants. It has been called "white root rot," and attacks all sorts of plants indiscriminately. The soil must be thoroughly cleansed and disinfected, all rotten wood and roots carefully removed, and nothing planted on the spot until the soil has been cleared of all trace of the white mycelium. *M. C. C.*

ROSES SUITABLE FOR CUTTING FOR SALE PURPOSES: *W. G. Dray.* All of those which you named are beautiful varieties of good form and colour and vigorous growth, and being H.P.'s, they will bloom in the autumn as well as the summer. We would add Madame Victor Verdier, Marie Baumann and Senateur Vaisse. If there are too many, delete General Jacqueminot and Fisher Holmes.

SEAWEED AS A MANURE FOR ASPARAGUS: *F. M.* Half a bushel would not be over much for 1 square yard.

STREPTOSOLEN JAMESONI: *A. W. H.* If the shoots are much crowded, thin out the weaker ones and shorten to half their length those left. It is a plant not easily kept in trim order, nor is this necessary. Leading shoots should be trained in the directions it is desired they should go, and the older shoots made fast to the wall or trellis.

TOMATO DISEASE: *J. H.* Your plants are affected by a fungus (Cladosporium fulvum). Burn those that are affected most, and spray the rest with the Bordeaux-mixture.

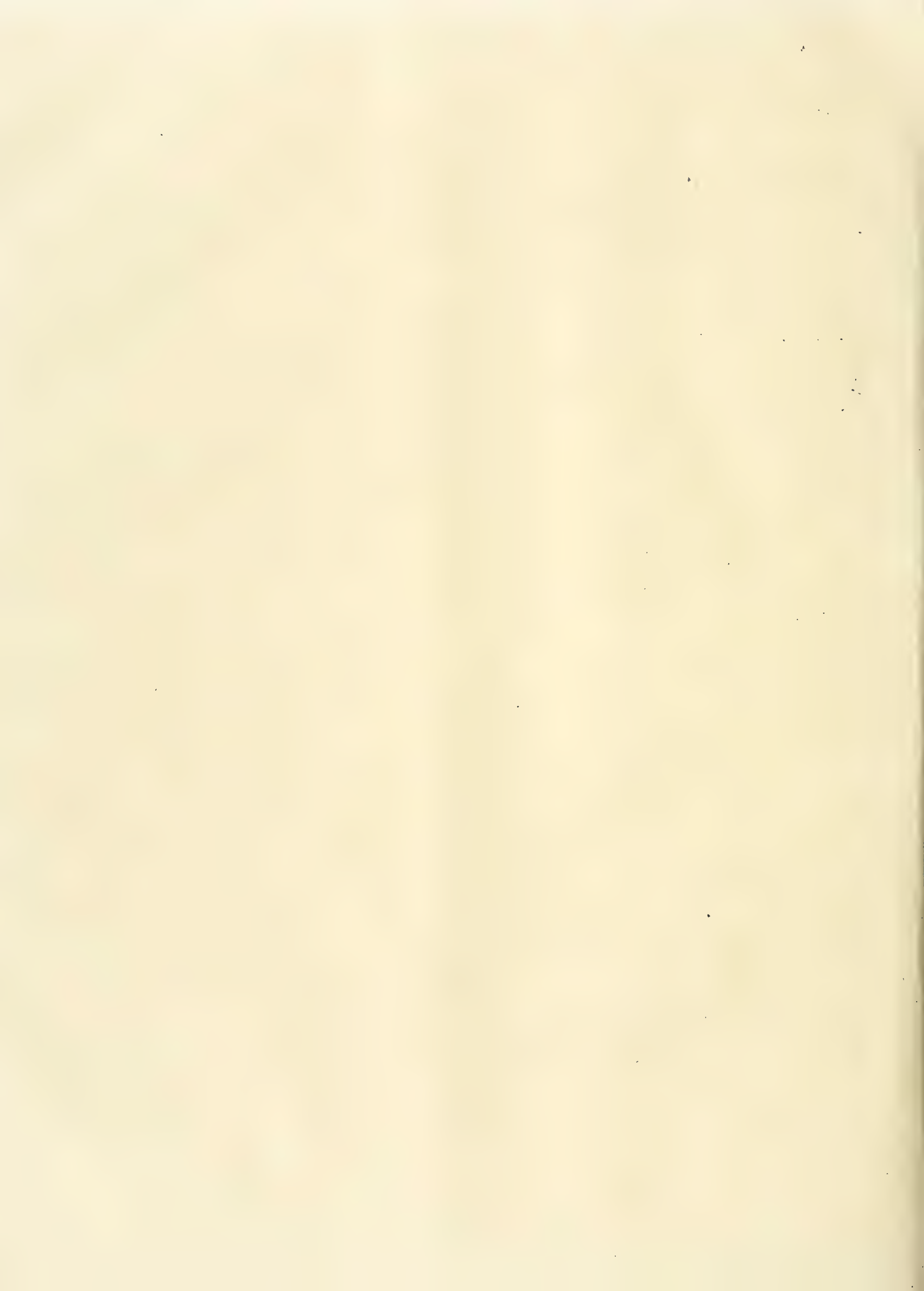
VINE-ROOTS DECAYED: *J. K. W., Ascog, Bute.* The roots exhibit no sign of fungus or insect, but of an ill-drained, sodden state of the soil. At the first the roots produced were healthy and numerous; but the nature of the soil has altered, and they are now in a state of decay. You should closely examine the border as to its drainage and general condition.

COMMUNICATIONS RECEIVED.—*A. Wagg—W. B.—F. G.—C. B. S.—W. Horne—H. H. Cromarty,* many thanks—*G. P. Bexley—W. K. Aberdeen—J. A. H.—G. N.—Sir G. K.—S. W. F.,* with thanks, will be used later on.—*S. K. D.—J. G. V.—W. Heinemann—Justus Corderoy—L. C. E.—J. R. J.—Rivoire Pere et Fils, Lyon—J. S. C.—A. W.—Ernst Benary—F. C. Heinemann—Erfurt—R. M.—Sutton & Sons—A. H.,* we shall probably use the photograph, many thanks.—Secretary Croydon Chrysanthemum Society, Secretary Ascot Chrysanthemum Society (will be included in list of fixtures for November in next issue)—*N. D.—J. Gutteridge—Secretary Royal Southampton Horticultural Society—H. L. E. G.—H. W. Brantree—J. H.—J. L.—J. McG.—V. M. H.—J. J. C. H.—M.—W. K.—F. J.—Editor, City Press—M. E. M.—J. F. M.—W. S.—T. O. W.—Dr. Bonavia—Expert—A. H.—G. A., junr.—E. M.—J. H. G.—J. D. G.—E. C.—R. D.—W. B. F.—T. D. O. P.—J. C.—J. K.—H. H.—H. R. A.*

(For Markets and Weather, see p. x.)



THE TERRACE STEPS, SHIPLAKE COURT, OXON.





THE Gardeners' Chronicle

No. 879.—SATURDAY, OCT. 31, 1903.

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WELLFIELD.

THE ORIGIN OF THE STEAM MOWING-MACHINE.—Wellfield is the residence of J. Stanning, Esq., J.P., Leyland, near Preston. The grounds have recently been remodelled and enlarged, having been in the hands of Messrs. Veitch & Sons, Chelsea, for two years. I visited the place when I could almost throw a stone across the lawn; now the mowing is done by a 24-inch steam-mower, a 24-inch pony-machine, and two 12-inch machines. It may be noted in passing that Leyland is the birth-place of the steam lawn-mower. Mr. Sumner, a local mechanic, applied steam to his bicycle, and was summoned for driving a steam vehicle without the orthodox red flag. Mr. Stanning was on the Bench, and he remarked that as the law stood they were obliged to convict Mr. Sumner, but he could continue to ride his steam bicycle, provided a person went in front of him with a red flag. Mr. Frisby, who was then gardener at Worden Hall, Leyland, suggested to Mr. Sumner that he should apply his arrangement to lawn-mowers, and a cast-off machine was provided; and the first trial took place on the lawn at Worden Hall in the presence of a gathering of gardeners and others interested; and some ludicrous incidents occurred as one visitor after another tried to guide the machine—one being rushed into the shrubbery, another toppling over the grassy slopes, machine and all. Everyone admitted that the invention was practicable, and Mr. Stanning was the first purchaser of a motor machine. Large works have been erected, with Mr. Sumner as manager, and he now rushes about in his motor-car without a red flag in front of him.

The lawn which adorned the front of Wellfield till lately had a gentle slope to the south down to a stream, but beyond that, where extension has taken place, the land was quite level; but the flatness has disappeared, and mounds and banks have been formed and planted in a most natural manner with a variety of shrubs, the formation of a new reservoir supplying plenty of material for the purpose. Some variegated Hollies, 10 to 15 feet high, of perfect form, were moved in the dead of winter from the shrubbery and planted on the raised ground, and all but one survived. They are not of the original size now, as they were much reduced at time of planting. The orthodox time of moving these and other large evergreen shrubs is in the spring, or just as they are about to start growing; but in order to proceed with laying the new lawn and forming walks, their removal was compulsory at that time.

There is not the usual bedding-out arrangement at Wellfield, but there are numbers of beds of Rhododendrons, Azaleas, Roses, &c., many of them being of one variety only. On the south side of the lawn, on the way to the kitchen-garden, there used to be a swamp with numerous springs, the home of every plant that sought such conditions, and instead of attempting to drain it in the usual way, it has been converted into a most delightful spot by forming six ravines 6 feet wide at the top, narrowing to 3 feet at the bottom, and 6 feet deep, each 60 feet long, the sides being supported with stone walls laid in as irregular a manner as was consistent with stability. The spaces between are 4 feet wide, 18 inches grass in the centre, with border on either side planted close to the stones with *Alstromerias*, *Gypsophilas*, *Ericas* of sorts, *Saxifragas*, *Cotoneasters*, *Chrysanthemum maximum*, *Geraniums* (Crane's-bill), *Statice* of sorts, *Chelone barbata*, *Iris*, *White Broom*, *Berberis*, *Iberis*, *Alyssum saxatile* and *compactum*, *Picea excelsa pygmaea* and *elegans*, alpine *Rhododendrons*, and many other plants. Other plants grow amongst the stones to the bottom, which is covered with splendid *Water-Cress*. There is always a gentle stream of water flowing over it in each of the ravines, which ultimately finds its way into the reservoirs lying south and west.

In the west corner of the ground near the mansion there are vineries, Peach-houses, span-roofed houses in which to cultivate decorative stove plants, and a few Orchids, including a fine lot of *Calanthe Veitchi*. These houses are heated with waste steam from the adjoining works, which are going night and day except Sunday; but there is a boiler in a room for use in heating from Saturday noon till 6 A.M. on Monday. In the room there is a cylinder containing pipes, into which the steam enters, heats the water, which circulates through the pipes in the houses in the usual way, and heats to any reasonable degree; and the night watchman can regulate the temperature. What an elysium for young men who dislike ever so little stoking!

THE KITCHEN GARDEN.

Passing by the ravines, the kitchen-garden is entered, which is on slightly higher ground. It is in all about 3 acres, in three divisions, each section surrounded by Beech-hedges. There are excellent crops, and Mr. Kirkman (the gardener) will score at some of the local shows. Last year he took the first prize at the Royal Lancashire Agricultural Show, held at Preston, for the best arrangement of fruit, flowers and vegetables, beating such a formidable exhibitor as Mr. Ashton, gardener at Lathom House, Ormskirk.

More than twenty years ago Mr. Stanning planted an orchard of Apples, Pears, and Plums of all varieties likely to succeed in Lancashire, and many that were not likely. After a few years, weeding-out commenced, and was followed up to about half-a-dozen years ago; and some of

the worthless ones were re-grafted with approved sorts, or those that had proved the more trustworthy. The trees are grown bush-fashion, and the fruits thinned; but this year, unfortunately, there are not any to thin.

The sheds, Mushroom-house, and fruit-room form an oblong square, 78 by 36 feet, on the south side of one of the kitchen gardens. There was a bed of splendid Mushrooms (rather an unusual sight in July) indoors. The bed-spaces are formed with brick arches resting on T-irons inverted, and these rest on neat round pillars, formed with two bull-nosed hard-burnt Staffordshire bricks in each course. The bottom of the beds are made even with concrete.

The fruit-room is built of 14-inch cavity walls, with double doors opening into another room, and there is 3-inch space behind the lath-and-plaster facing. Against the back of the sheds on the south side there are six bays formed with walls extending at right angles.

Peach-trees are planted on walls facing south; Apricots on the west, and Plums on the east walls. In one of the kitchen-garden divisions there are houses for Cucumbers and Melons, one for *Chrysanthemums*, 21 by 120 ft., in two divisions, of which 600 are grown for exhibition bloom mainly, Mr. Kirkman being a successful exhibitor at Eccles, Bolton, Chorley, and Blackburn. One of these compartments was filled with Pears, Plums, &c., in pots, but they are only scantily cropped this year. The other compartment contained miscellaneous flowering greenhouse plants. Suspended from the cross-rods forming part of the support for the roof were three dozen 6-inch pots of *Campanula* trailing down 2 feet, and clothed with blue flowers; and underneath *Campanula pyramidalis*. In two vineries recently planted were some excellent pot Vines carrying good crops and standing between the permanent Vines.

There is an efficient staff of men at Wellfield, and the place is a model of neatness.

Near the village Mr. Stanning has formed one of the smartest cricket grounds and bowling greens in the county, the surroundings being most delightful. On the south side there is woodland, and on the north a narrow belt of trees flanked with a wide border of choice shrubs and flowering plants. *W. P. R., Preston.*

ORCHID NOTES AND GLEANINGS.

MONSTROUS CYPRIPEDIUM.

MR. J. COUPLAND sends a scape of *Cypripedium insigne* bearing a leaf, and two flowers, the stalks of which are adnate for some distance. The two lower sepals are separate, so that there are three sepals, two petals, and a lip; whilst the staminode is deeply divided into two branches.

CATTLEYA LABIATA AUTUMNALIS.

In the Orchid-houses of R. A. Atkinson, Esq., Aigburth, is to be seen one of the finest collections extant of this beautiful species, and upwards of 150 flowers are now expanded, with many more to follow. Most of the flower-spikes carry four flowers each, which average 7 inches in diameter. They vary considerably in colour.

In other houses *Cattleya Bowringiana* and *Dendrobium Phalaenopsis* were observed to be showing for bloom. *J. S.*

AN ORCHID PICTURE-SHEET.

From Mr. Otto Beyrodt, Orchid Nurseryman, Marienfelde, near Berlin, there comes a well-executed coloured picture of Orchids, published for the same purpose as the coloured illustrations, with a calendar, sent out by nurserymen in this country as a reminder to their customers and others. In this case only the name of the firm

is given, and the names of the flowers enumerated; they are—*Cattleya Mossiae*, *C. labiata autumnalis*, *C. aurea*, *C. Trianae*, *C. Harrisoniana*, *Cypripedium insigne*, *C. Lawrenceanum*, *C. Charlesworthi*, *C. callosum*, *C. villosum*, *Oncidium tigrinum*, *O. Forbesi*, *O. varicosum* Rogersi, *Odonoglossum grande*, *O. crispum*, and *Vanda cœrulea*. All are well drawn, and coloured as closely to nature as possible, and should help to spread a liking for Orchids.

HIPPEASTRUM "HILDENLEY."

FROM Sir Chas. W. Strickland, Bart., Hildenley, Malton, Yorks, comes a flower of a handsome late-flowering *Amaryllis* or *Hippeastrum*, of which he says:—"I am sending you a flower of a hybrid *Hippeastrum*, *H. Ackermanni pulcherrimum* crossed with *H. reticulatum*. The scape is only 6 inches high and bore five flowers." The perianth, which is funnel-shaped as in *H. reticulatum*, has the segments free nearly to the base, each segment being over 5 inches in length and $1\frac{1}{2}$ inch in width, the lower one rather the narrower. The base of the flower, or tubular part, is of greenish tint spotted with red; the blades of the segments white, tinged and veined with bright magenta-rose, the upper ones being the darkest. From the base of each segment there runs a white band bordered in the lower part by purplish-rose veining. Anther filaments and style of a reddish-rose tint; anthers whitish. It is one of the best of the late-flowering hybrids of *H. reticulatum*.

The *Hippeastrum* used is the *Amaryllis reticulata* of gardens, the evergreen warm-house species with short, dark-green leaves, having a broad white band down the middle, and fragrant white, rose-tinted and veined flowers. Botanically it is a singular plant, and in many of its characters comes near to the true *Amaryllis Belladonna*; its seeds, for example, being thicker and very sparingly winged when compared with other species. I used it for crossing thirty years ago, and since, and have noted some of its peculiarities. Used in crossing flowers of very different form and colour it invariably imparts its main characteristics and colour on the progeny. The greatest success I had with it was in crossing the, now probably extinct, finely-formed, salmon-rose spotted *Hippeastrum pardinum*, which appeared in the importation of the less beautiful purple spotted *H. pardinum* imported from Peru by Messrs. Veitch about 1866. This fine form refused to seed when self-pollinated or crossed with any other until I tried it with the seemingly hopeless *H. reticulatum*, when it produced fertile seeds, from which was raised *H. O'Brieni* and which closely maintained the fine form of *H. pardinum*, and its rose-coloured spotting, together with the veining and the white striped leaves of *H. reticulatum*. I also set with pollen of *H. reticulatum* a seed or two on the Blue *Amaryllis*. *H. procerum*, a plant of an entirely different section, but never reared a plant. With the exception of *H. O'Brieni*, there has been a strong family likeness between all the hybrids of *H. reticulatum* and that now flowered by Sir Chas. Strickland is the best departure in colour, though not nearly so much so as the parentage of the rich scarlet *H. Ackermanni pulcherrimum* would lead one to expect. These crosses are, however, a gain in being late-flowering, and it is probably on account of their little variation in colour and form which has prevented their being more worked.

In this section, too, with the strong tendency to be evergreen in *H. reticulatum* when crossed with deciduous species, or species which require a long, dry rest, in the progeny there a continual conflict between the two natures. The same applies to crosses with *Hippeastrums* of the thick-

leaved *Aulicum* section, which resent vigorous drying off when crossed with deciduous species. While the bulbs are young and while the vigour can be maintained, the trouble is not very evident, but when they get any reverse they are not easily brought round again. This friction between the tendency to grow inherited from one side, and the desire to rest from the other, results in many *Hippeastrums* "slipping through the fingers" apparently in an unaccountable manner. With the strictly florists' varieties, crossed in and in for many years, however, something like immunity from this trouble is attained. *James O'Brien*.



FIG. 124.—PINUS SYLVESTRIS (SCOTS PINE).
Showing the tufts of leaves in whorls.

THE SCOTS PINE.

THE common Scots Fir (*Pinus sylvestris*), like all Conifers grown for timber or forestry purposes, is almost universally produced from seed, and as one of the consequences the seedlings vary enormously in size, habit, length and colour of leafage; but I can find no record of the occurrence of sub-verticillate-leaved forms of which I now enclose a branch, along with one of what I take to be the normal or type form. In the latter case the twin leaves are crowded together in a spiral manner on the twigs, while in the other the leaves are arranged in a whorl-like or rayed manner at the swollen nodes only, the internodal region of the shoot or stem being quite bare of leafage for spaces of an inch or more between each node. The accompanying sketch will make what I mean more clear than words, and I shall be very grateful to any practical observer who can put me on the track of a solution of what is to me a very interesting problem. The so-called Japanese Yew

or *Cephalotaxus* now and then exhibits a similar kind of aberration, and a similar clustering of the needle-like leaves into whorls is characteristic of the so-called Umbrella Pine of Japan (*Sciadopitys verticillata*). Can this peculiar verticillate arrangement of the leaves now and then in the case of *Pinus sylvestris* be a phase of atavism, or the lingering of 'ancestral characteristics, or to what other cause, or for what other reason can this peculiar variation in the leaf arrangement be due? In the examples sent the whorl-leaved example has slightly shorter and more blue or glaucous-tinted leaves than those of what I take to be the densely-leaved typical Scots Pine of our woods and plantations. Some observers of the Scots Pine in Ireland have felt inclined to consider it as different in aspect to the Scots Pine in Scotland and England, the leaves being of a much more glaucous or blue-green colour. Climate and rainfall may have something to do with this distinct facial aspect, but there must, as I imagine, be a deeper cause for the very distinct leaf arrangement, as shown by the sketch and enclosed actual specimens. The latter, I may add, were gathered from Scots Pine-trees in the beautiful demesne of Rossannagh, near Rathnew, co. Wicklow, by permission of Colonel Tighe. *F. W. Burbidge*.

CULTURAL MEMORANDA.

TOMATOS.

IF fruits are required as early as the month of May, seeds should be sown during October or early in November of *Chemun Rouge*, which never fails to bear abundantly. Tomato plants in winter require a light, warm position, and not to be over-potted or afforded too much water at the root. The plants will grow to a good size in small pots at this season. Sow the seed in well-drained pans filled to within $\frac{1}{2}$ inch of the rim with a light sandy compost, which press rather firmly. Cover with a sheet of glass and place in a warm house. Scarcely any water will be required till the seedlings appear. When large enough to handle readily, pot them in a light sort of soil. Place the pots on a shelf near the glass, slightly shading them from the sun for a few days. Afford the plants plenty of space in order to avoid a spindle growth, and repot when necessary. When shifted into the fruiting pots afford space for a top-dressing, which may be applied after some of the first fruits have set, and water. All lateral shoots should be removed, and the foliage slightly thinned at intervals if the plants should grow too gross. A suitable temperature during the winter is one of about 60°. *H. Markham, gr., Wrotham Park*.

POTATOS IN MIDLOTHIAN.

WE extract the following remarks from a long article in the *North British Agriculturist* of October 14:—

"On Saturday, October 10, on the invitation of Mr. T. A. Scarlett, a numerous company of representative agriculturists and others interested in Potato growing had an opportunity of inspecting that gentleman's stocks of seed Potatoes growing in the Hawthornden and Roslin district. Mr. Scarlett had previously also had the work of inspection greatly simplified by having the names of the different lots (there were twenty-five varieties altogether) tabulated on sheets of paper, with particulars as to the habit of Potato, whether late or early, shape of bulb, formation of eye, date of planting, and so on. There were also particulars as to manuring and dates of spraying. These sheets were circulated amongst the company, and were found very useful. All the varieties were treated alike manually. In addition to a good dressing of farmyard manure, they got 4 cwt. kainit, 2 cwt. sulphate of ammonia, 6 cwt. superphosphate, $\frac{1}{2}$ cwt. sulphate of potash, and $\frac{1}{2}$ cwt. muriate of potash per acre. One or two of the lots had also got 5 cwt. of ground lime per acre two weeks before planting. Planting varied from April 25 to May 20, and spraying from August 8 to September 11. In some cases spraying had been done twice, and

whether this was the cause of it or not, disease was very little in evidence during the day.

Following Mr. Scarlett and Mr. Plenderleith, the tenant of the farm, the visitors first proceeded to a patch of the Crofter, an attractive-looking second early of flat shape. It was planted on April 20, and the 6 yards yielded 27½ lb. of Potatoes, 103 being big, 26 seconds, and 33 chats. Three chats in this class were found diseased, but the sample all over showed profitable quantity. Next came lot No. 1, Dalmeny Beauty. This variety had 13 shaws to the 6 yards, as against 12 in the case of the Crofter, and the yield was—big Potatoes, 111; seconds, 21; and chats, 10; the total number being 142, weighing 31½ lb. After Dalmeny Beauty came another Dalmeny variety, Dalmeny Hero. This is also a late variety, but of the round form, the other being oval in shape. The planting date of this was also April 20, and the yield for the 6 yards, there being 16 shaws, was 32½ lb., the big Potatoes numbering 126, the seconds 59, and the chats 23. This was the largest yield yet reached, and although the quality was rougher than some of the others, there was absolutely no disease. Better still was the result obtained in the case of the next 'sampling,' which was of The Factor, a new variety which has been coming to the front very much of late. In this case, although there were two diseased, the total yield was the very satisfactory one of 36½ lb. for the 6 yards, big yielding 125, seconds 32, and chats only 3. The Factor is a late variety, but was much thought of. Growing alongside was a new unnamed variety of much merit, which also yielded 36½ lb. over the 6 yards. This was an oval-shaped Potato of great uniformity and attractiveness from a market point of view, the large Potatoes numbering no fewer than 134, and the seconds and chats only 18 and 20 respectively.

"Passing through the policy gate of White Hill, the farmers of the party had a distinct object-lesson in the value of spraying for Charlock destruction. A field of Barley had been almost choked out with Charlock, until it was suggested that it should be sprayed with a dressing of the sulphate of copper mixture. This was done at a cost of about 7s. per acre, with the result that there was hardly a head of the yellow weed to be seen. The crop certainly was thinner than it would no doubt have been had it not been choked in its early growth by Charlock, but it was wonderfully good in the circumstances. In this neighbourhood also the visitors were entertained to a practical demonstration of the working of the new Potato-sorter, recently invented by Mr. D. Wilson, Riccarton, Linlithgow. The sorter was fitted with bagging apparatus, and under the supervision of the inventor, who was present, gave an excellent account of itself, the work done being unanimously voted excellent.

"At Mr. Fisher's farm the same routine was gone through as at Rosewell Mains. On this farm where it may be said the land was sandier and more gravelly than at Rosewell Mains, the best result was got from No. 12, Charles Fidler, which came out at the splendid yield of 45 lb. for the 6 yards, this being the second-best yield of any variety of the day; and there was absolutely no disease, the crop being beautifully fresh and sound. Another good yield here was that of Beauty of Bute, a variety of German origin, which would no doubt be more largely grown but for its pinkish-coloured eye. This variety came out with 39½ lb. over the 6 yards, the large Potatoes numbering 122, the seconds 49, and the chats 33. In the case of Charles Fidler, the large Potatoes numbered 115, the seconds 24, and the chats 16.

"A number of samples of other varieties grown on other farms were also inspected with interest. Amongst these was found the heaviest cropper of the day, namely Goodfellow, a late oval variety, which yielded no less than 46 lb. to the 6 yards, largest counting 187, seconds 24, and chats 65. The results of three shaws of Northern Star variety were also examined with much interest. With 27-inch drill, 32 inches apart, the yield was 14 lb. 12 oz.—36 big Potatoes, 50 seconds, and 57 chats. With 48 inch drills, 21 inches apart, 26 big, 42 seconds, and 43 chats was the result, weighing 14 lb. 4 oz. All over the crops of Potatoes were looking exceedingly well. As a rule, the yields, so far as comparison could be made, were fully better than last year, crops of up to 13 and 14 tons per acre, and occasionally a little over, on the basis of the 6 yards' yields, being pretty frequent. In this connection it may be mentioned that Mr. Scarlett stated that he never counted on getting more than two-thirds of the calculated yield of the crop in saleable Potatoes; that was, if the crop was estimated at 12 tons, about 8 tons only would be saleable. This was corroborated by Mr. Harry Hope, who said he always allowed 27 to 30 per cent. from the calculated yield for shrinkage.

"After a most interesting afternoon, the party returned to Rosewell, where they were entertained to high tea, a feature also being the handing round of boiled samples of several of the leading new varieties, including Northern Star. This variety was voted rich in flavour, but wanting somewhat in dryness and mealiness. With many the honours of this side of the test passed to Langworthy, which, in addition to being magnificently rich and full in flavour, was very dry and mealy. Dalmeny Beauty, Crofter, and Factor also came well through the cooking test, both colour and flavour in each case being declared excellent."

ORCHARD AND GARDEN PESTS.

VERY recently a large, fleshy fungus, called *Hydnum Schiedermayeri*, has been developed on an old Apple-tree at Maldon, Essex, bursting through the bark in a long strip, extending for 3 or 4 feet in an irregular mass. It has a nodulose appearance, of an ochrey-yellow or flesh-colour. The nodules produce long spines, which are covered by the hymenium producing the spores. It was forwarded from the Chelmsford Technical Laboratories to the Scientific Committee of the Royal Horticultural Society by Mr. Fred. J. Chittenden, and seems to be the first record of the occurrence of this species in Britain. There is a woodcut in Massee's *Plant Diseases* (fig. 39). According to Thumen, this fungus is very frequently destructive to Apple-trees, and is presumably a wound-fungus, the spores entering through a wound or fissure of the bark, and soon becoming developed. An allied



FIG. 125.—OVULARIA CLEMATIDIS ON CLEMATIS.

- a, Section of petal with mycelium and conidiophores.
- b, Conidiophore with conidium.
- c, Conidium germinating.
- d, Conidia.

species was found in Epping Forest a few years ago on a Beech-trunk, named *Hydnum diversidens*, so that both of these destructive species may now be regarded as British.

From the same source and at the same time, the flowers of *Clematis* (Jackmanni?) were sent, infested with a white mould, which has been named *Ovularia Clematidis* (Chittenden), forming whitish patches on the upper surface of the petals, and may thus be described: Spots epiphyllous, white, conspicuous, circular or sub-circular, from 2 to 4 centimetres in diameter. Mycelium colourless, branched, creeping. Fertile hyphae erect, simple, 40–60 μ \times 7 μ , two or three times septate. Conidia hyaline, solitary, or mostly so, cylindrical, with rounded ends, 28–42 μ \times 14–16 μ , smooth.

This species occurred at Chelmsford, September, 1903, and differs from all described British species in the large conidia, which sometimes give indications of being shortly catenulate. M. C. C.

THE ROSARY.

ROSE ÉTOILE DE FRANCE.

Tout vient à qui sait attendre. We rosarians have been patiently but diligently waiting for the red ever-blooming Rose which we could put side by side with Hon. Edith Gifford, Kaiserin Augusta Victoria, Madame Ravary, Killarney, and so forth, and to us it has come in M. Pernet Ducher's new Étoile de France. First of all it is bright, brilliant red—as red as Fisher Holmes; and, secondly, it is even more fragrant than La France, which, partly for this abounding and delicious quality, we suspect is one of its parents. It has, too, on its petals a bloom which at once suggests Victor Hugo. Are these two Roses then its actual parents? We had better not pry further into M. Pernet Ducher's secret, but be content with thanking him for one more of the many benefactions his skill has bestowed upon our gardens. Looked at critically, it has little, if any, yellow in its composition; while, on the other hand, there is just that suggestion of blue which marks La France. This is its only weak point, for it comes to us warranted by its raiser to be at once hardy, vigorous, and continuously in bloom. *Arthurus.*

KITCHEN GARDENING.

STORING AND FORCING CHICORY (CICHORIUM INTYBUS).

THE cultivation of Chicory as a winter salading plant has received more attention in recent than in previous years, and the cultivation of the plant has been extended, more especially by gardeners who have to furnish materials in quantity for salads during winter and early spring. Seeds of the plant should be sown in shallow drills in soil of average fertility in April or May, and the seedlings thinned to about 9 inches apart. The plants will have grown this year to a large, and the roots to Parsnip size. As soon as the leaves of the plants die down naturally, the crowns should have a small quantity of wood-ashes sprinkled round and over them previously to covering a short length of half-a-dozen or more rows with rough wooden troughs about 10 inches deep, 9 inches wide, and 8 feet long, the ends being about 1 inch higher than the sides, so as to hold a board of the same length and width of the trough in position when placed thereon; and over this place a quantity of clean and slightly fermenting leaves to the thickness of 2 feet. Thus treated, good, well-blanching Chicory may be cut in about a fortnight or three weeks. In order to maintain the supply three dozen troughs, more or fewer according to circumstances, will be necessary, these (twelve at a time) being placed over the half-dozen rows at intervals of a week or ten days, beginning at the end nearest to the path as a matter of course. By forcing a given length of six or more rows together at one time, a better and more even degree of heat is secured from the leaf-bed, and warmth is imparted to the soil, thereby tending to the production of solid, well-blanching heads. As the season advances the depth of the bed may be reduced, and during the months of February and March a covering sufficient to exclude light will suffice. I have practised the method advised for many years, with very satisfactory results in the saving of time and labour, the roots not having been disturbed until they are removed to the rubbish-heap, prior to the ground so occupied being manured and dug in preparation for other crops.

Where it is not convenient to follow this method, successive batches of roots may be taken up with the assistance of a digging-fork, and placed 3 or 4 inches apart in shallow boxes or in large pots, packing light mould moderately firm

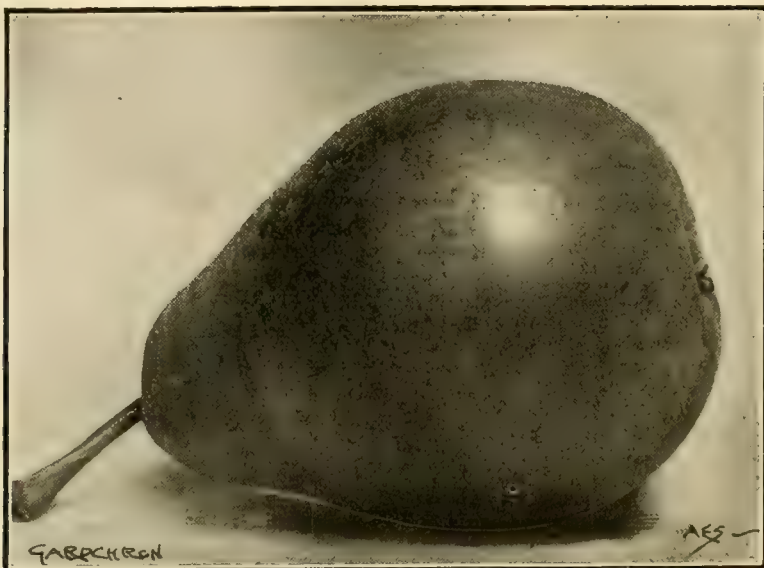


FIG. 126.—BEURRÉ ALEXANDER LUCAS.

about the roots, and placed in a Mushroom-house, cellar, or shed from which air, daylight and frost can be excluded. The crowns placed in pots should be covered with inverted pots of the same size, as also should those in boxes be covered by inverted boxes of not less than 8 inches in depth, so as to admit of fair-sized heads of blanched leaves being developed in due time. However, the produce thus obtained will not compare with that secured from roots covered and forced in their summer quarters, i.e., where they are growing in the manner described above. H. W. Ward, Rayleigh, October 10.

NOTES ON SOME VARIETIES OF PEARS.

SOME time ago I promised to write my experience of some of the less known Pears, not necessarily new varieties, but sorts that are seldom seen in gardens. Amongst those mentioned below it will be noticed that some of them ripen about the same time as Beurré Hardy and Doyenné du Comice, two of the finest Pears we have. These two sorts have failed here this season. I have not a fruit of Beurré Hardy, and not more than four dozen fruits of Doyenné du Comice. I mention this circumstance to show how necessary it is to plant a considerable number of varieties in order to obtain fruits in a bad season, such as this has been. The sorts that cropped heavily last season are almost a failure this year; but, having planted all the best kinds, I can now show a very nice lot of fruits of at least thirty varieties.

Triomphe de Vienne is a very fine, large fruit, of handsome appearance. It succeeds well on the Pear or Quince stocks. The fruits make a really handsome dish for the dining-room in September.

Marguerite Marillat.—Another very fine Pear of grand flavour, succeeding well here on the Pear stock. It is a good grower, and would probably make an excellent espalier tree for the open quarter.

Beurré Alexander Lucas.—The fruits are very green whilst growing, but they gradually change to a beautiful straw colour, and acquire a delicious flavour. The tree is a good grower and the variety is a most desirable one, ripening in November (fig. 126).

Beurré d'Avalon.—Partakes much of the character of Beurré Hardy, although at present I do not consider it to be so good as that variety. At the same time it ought to be grown in every collection.

Beurré Dubuisson.—A very fine-flavoured fruit, ripening in the early part of December. In this garden the tree is a very slow grower.

Beurré Fouquerey.—Much resembles Beurré Bachelier, but in this garden is much better in every respect.

Beurré Jean van Geert.—A very beautiful fruit. Even this season it is exceedingly handsome, and possesses moderate flavour.

Beurré Mortillet.—A very handsome early Pear of large size. The fruits should be gathered before they become coloured, otherwise they are flavourless.

Beurré Perren.—Not a very large fruit, but of excellent flavour; in season during January and February (fig. 127).

Charles Ernest.—This is a grand fruit of handsome appearance and excellent flavour. The tree is a good grower and crops well (fig. 128, p. 301).

Conference.—After Doyenné du Comice, I consider this Pear the best flavoured sort we grow. This season with us it is most luscious and of exquisite flavour and beautiful appearance. I know some object to this variety, because the fruits decay at the core, but indication of this defect can generally be detected by gentle pressure with both hands (fig. 130, p. 306).

Fondante Thirriot is a heavy cropper, and requires to be thinned severely; it then becomes of useful size and good flavour. It is a desirable Pear.

Le Brun.—This is a long yellow fruit of fine grain; a good cropper and grower. Certainly a good Pear to plant.

Le Lectier grows well as a tree, but I have not been able to ripen the fruits perfectly.

Michaelmas Nelis.—This is a very fine Pear, of delicious flavour, a good cropper and free grower. It is the best in its season for general use. Where early Pears are in demand this variety should be largely planted. If the trees be looked over every day and the forward fruits gathered, the season can be prolonged for a month or more. The fruits are of rather small size (fig. 131, p. 307).

St. Edmund's.—This variety has not succeeded in this garden at present.

Directeur Hardy is a very useful variety, but a bad grower.

Lady Clapp.—This is a good grower, and the fruits are of moderate quality, but here it is not quite so good as Clapp's Favourite, which it much resembles. However, it ripens a fortnight later



FIG. 127.—PEAR BEURRÉ PERREN.

than Favourite, and may be useful for exhibition purposes.

Magnate.—A fine large fruit of moderate flavour, and the tree crops freely.

Passe Crassane.—This is the very best late fruit we have, requiring a south or west wall and very generous treatment. Plenty of stimulants and water in abundance are necessary to bring this fine Pear to perfection. I have exhibited fruits at the Drill Hall, and they were considered to be

NURSERY NOTES.

MESSRS. JAMES VEITCH & SONS, LTD.

To attain perfection in quality and cultivation of the immense number of species and varieties cultivated has always been the object of this firm. In the matter of hybrid Orchids they were the pioneers. Their collectors have sent from all parts of the world new and rare plants, their last

department is now removed; and Coombe Wood, where hardy trees and shrubs are grown. The fine blocks of houses at Chelsea have been renewed or rebuilt, and in them now none but the perfection of the large stock of plants find place. Generally the flowering subjects do not arrive there until set for bloom. In order to do this with safety at all seasons, large vans, heated when necessary, are used. These are loaded in enclosed buildings at the branch nurseries, and unloaded in a similar structure, to which the

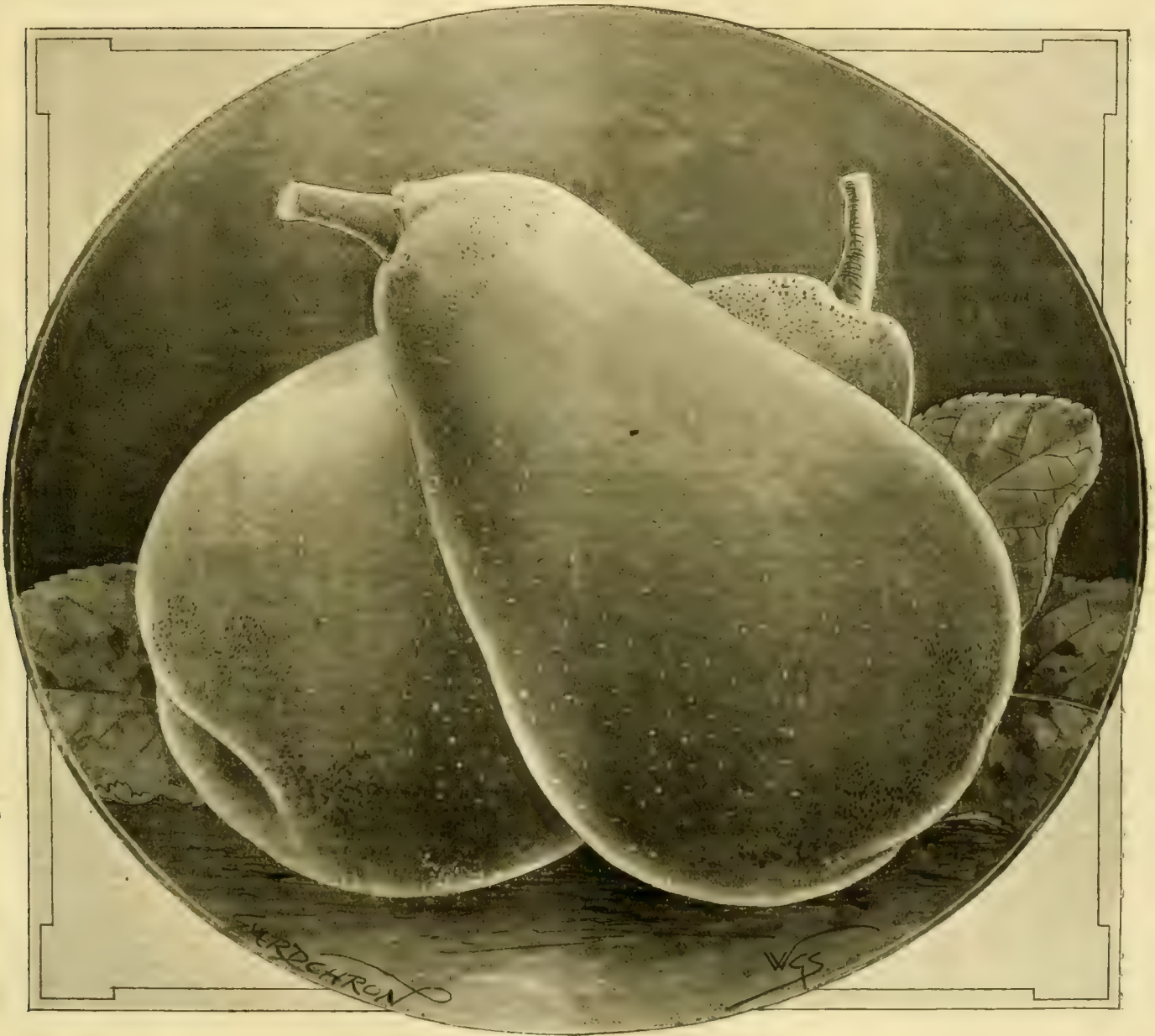


FIG. 128.—PEAR CHARLES ERNEST. (SEE P. 300.)

a new sort, because the specimens were so large and possessed superb flavour. The fruits of this variety were still on the trees (October 9), tied on with paper collars to keep the birds away, and although we are having showers almost every day, I am giving all late ripening Pears copious supplies of manure-water about three times each week. This I have found to be absolutely necessary for the growth and finish of all late Pears. Late kinds with me do not commence really to put on flesh and quality till late in the season. G. Woodward, Gardener, Barham Court Estate, Maidstone.

venture, with a view of introducing new hardy and half-hardy shrubs and flowers, taking their representative into the highlands of Central China. In fruits and florists' flowers they have also zealously worked. But as the years passed, and buildings, with the consequent fogs, encroached, it became more and more difficult to maintain the standard desired. Some years ago the cultivation of all the important classes of plants was undertaken at the various country branches, as at Feltham, where the hybridising and raising of new plants are carried on; Langley, where the hybrid Orchid

glasshouses adjoin, at Chelsea. Thus the central establishment is made the show ground for all the best things grown in all the other branches. The wisdom of such an arrangement is very evident, for at no time has the nursery been seen with so much flower and promise of flower of excellent quality in all its departments. The change has been brought about without difficulty, as the old chiefs of departments remain at Chelsea; and Mr. John Heal keeps in touch with the specialties which Messrs. Veitch have developed under his care, by passing part of his time at Chelsea and part at Feltham.

THE ORCHIDS

have still a large number of houses devoted to them. The first we entered contained a very fine show of autumn-flowering *Cattleya labiata*. On the central stage was a large quantity of all the showy *Cattleyas*, *Trianae*, *Mossiae*, *Schroderae*, &c., all furnished with flower-sheaths and all in splendid condition. At the end of the house is a representative collection of *Vandas*, including a stout specimen of *V. (Arachnanthe) Lowii*, *Laelia Digbyana* in sheath, *L. anceps* in spike, and *L. autumnalis atro-rubens* suspended overhead.

In the corridor joining the ends of the next block of houses are in flower varieties of *Odontoglossum crispum*, *O. grande*, *Oncidium Forbesii*, *O. varicosum*, and many of the other *Oncidiums* of that class; also *Maxillaria picta*, and some hybrid *Masdevallias*. The next large span-roofed house has a fine show of *Cattleyas* in flower, principally good forms of *C. labiata* and *C. Dowiana aurea*. Some hybrids were also in flower here, including the showy *Laelio-Cattleya* × *Dominiana*, varieties of *L.-C.* × *Nysa*, *L.-C.* × *Haroldiana*, *L.-C.* × *Bletchleyensis*, and the late-flowering hybrids of *Cattleya Bowringiana*, together with good examples of the species itself. *Cattleya Skinneri*, *Laelia tenebrosa*, *L. purpurata*, and others were observed well furnished with flower-sheaths. The next house had at the entrance a small lot of sturdy plants of *Vanda coerulea* sending up spikes; so also were all the showy *Cymbidiums*, such as *Tracyanum*, *giganteum*, *eburneum*, and hybrids. Others noted either in flower or bud were *Vanda Kimballiana*, *V. Amesiana*, *Cattleya velutina*, *Laelia pumila*, *Lycaste Skinneri*, *Ornithocephalus grandiflorus*, *Houlletia Brocklehurstiana*, and some of the species and hybrids of *Cattleyas*.

The tank-house, in which is a large collection of *Nymphæas*, has suspended overhead a fine lot of *Dendrobiums*, the front being occupied by the hybrids raised by Messrs. Veitch; *Dendrobium Phalaenopsis Schroderianum* and *D. formosum giganteum* give the greatest show of flowers. The smaller span-house has a collection of the rare forms of showy *Cattleyas* and *Lælias*, and also representatives of most of the best hybrids, together with a collection of *Cypripediums*, some of which are in flower, the best being *C.* × *Baron Schroder*. In one of the houses is a small collection of *Phalaenopsis*, *P.* × *John Seden* and *P. antennifera* with eleven spikes being noted. Other houses contain representatives of most of the showy Orchids.

The greenhouse *Rhododendron*-houses have not been without some flowers on the specimens in them for years. The end of the principal house now has a fair show made up of *R. jasminiflorum* and *R. javanicum*, the two species which produced the bulk of the fine things raised at Chelsea, and which were developed by the introduction of *R. multicolor* and *R. Teysmanni*. The best of those now in flower are *Mrs. Heal*, white; *Rose Perfection*, rose-colour; *Lord Wolseley*, copper-orange; *Hercules*, yellow; *King Edward VII.*, clear butter-cup yellow; *Thetis*, nankeen yellow; *Taylori*, pink with white tube; *Jasminiflorum carminatum*, carmine; *Dido*, Indian red; *Virgil*, yellow, and three differently coloured varieties of the double-flowered *R. balsaminiflorum*. It is not so well known as it should be that these greenhouse *Rhododendrons*, including *Veitchii* and others of that section, are among the best plants to grow in the warm, rather dry conservatories often adjoining dwelling-houses. These *Rhododendrons* have been known to thrive admirably where most other plants failed to be other than shabby and unsatisfactory.

THE NEPENTHES

are displayed both in the rockery show-house and in their own commodious quarters. *N. Curtisii* varieties, *N. Northiana*, *N. ventricosa*, *N. bicolorata*, *N. mixta*, *N. sanguinea*, and the still

finer hybrid *N. Mastersiana* × and most of the other species and hybrids are producing a fine show of "pitchers." A large number of the *Veitchian* hybrids are also present, and all beautiful, some of the newer ones obtained from *N. mixta superba* being very handsome in form and colouring. Of the best noted were *N.* × *Tiveyi*, a very fine green pitcher with the dark purple blotches displayed in lines; *N. picturata*, *N. Sir W. T. Thiselton-Dyer*, and *N. Balfoureaana*, all of the large and showy class.

In a cold house is a collection of the greenhouse "pitcher plants," *Sarracenias*, both species and hybrids, and some *Droseras* and other insectivorous plants.

The main blocks of houses running up to the Fulham Road have all been renewed and made level with the central walk, instead of being on a lower level, as formerly. In them are small batches of a very varied collection of plants, many of which have been sacrificed elsewhere in order to make room for quantities of a few easily-grown things, not in some cases equal in beauty to those whose places they usurp.

The winter-flowering *Begonias* give the greatest show at the present time; the houses devoted to them being literally masses of colour given by the batches of *B. Agatha* and *B. A. compacta*, two fine improvements on the floriferous *B. Gloire de Lorraine*; *B. Mrs. Heal*, the best dark crimson; and *B. John Heal*, a smaller crimson; *B. l'Idéale*, a fine semi-double; *B. Winter Cheer*, *B. Winter Perfection*, and the others which have been frequently shown from Chelsea. So much do these winter-flowering *Begonias* take the fancy of growers that at Feltham two houses, each 100 feet long, are filled with them. *B. Froebelii incomparabilis*, *B. socotrana*, and other species are also in bloom.

The showy *Veitchian* strains of *Streptocarpus* command like attention, and there is great demand both for plants and seeds.

Among the other fine batches noted were a house of grand bulbs of the new strain of *Hippeastrum* or *Amaryllis*, with *A. Autumn Beauty*, a showy late-flowering hybrid of *A. reticulata* in bloom; a fine show of the best and newest *Chrysanthemums*, a good display of zonal *Pelargoniums*, winter-flowering *Heaths*, *Carnations*, *Gardenias*, *Lapagerias*, *Cannas*, *Camellias*, *Eschynanthus*, the blue *Dædalacanthus parvus*, scarlet *Salvias*, and other winter flowers; and in the warmer houses a good collection of *Ferns*, *Codæums*, *Dracenas*, and other decorative plants.

The Week's Work.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Cleansing the Houses.—The cultivator, being now busily engaged in repotting many of his plants, should devote his attention to cleansing stages, walls, glass, &c.; and the more thoroughly these operations are carried out the better will the plants be enabled to pass the winter. If convenient, a house should be cleared of its occupants before the work is begun. The roofs should be cleansed at the least once a year, and more often in foggy, smoky districts and towns. After a house is cleansed the ventilators should be opened wide for several hours.

Cleansing the Plants.—Newly-potted plants will require more than ordinary care in carrying out the work, being more easily loosened in the materials than those which have not been disturbed. There are some plants whose leaves, if roughly handled, get cracked and broken, and sometimes the central leaf of a growth is pulled out. Where these things occur the plants are made unsightly. Every plant, when the house is re-arranged, should have a position in which it will have a fair amount of sunlight, and hanging plants should be placed out of the reach of cold air admitted by the upper ventilators. Some remarks on cleansing and cognate matters will be found in my Calendar for January 10 this year.

Yellow and Black Thrips.—In order to keep Thrips from increasing employ a vaporiser and a safe compound at regular intervals of two to four weeks, damping down the house, closing it early in the day, and allowing the temperature to rise considerably. If this be done the Thrips are induced to come out of such hiding-places as the vapour cannot readily reach. It will be found that two mild applications, with an interval of a few hours between, are safer than one of greater strength.

Other Pests.—Slugs, snails, woodlice, &c., must be sought for diligently, and baits of Lettuce leaves, saucers filled with bran, and pieces of Bean-stalk placed about among the plants. Fresh soot placed in the ventilators helps to keep out of the house slugs and snails. Cockroaches are very destructive and must be trapped and otherwise destroyed.

FRUITS UNDER GLASS.

By T. H. C.

Pot Vines.—Where the earliest Grapes are obtained from pot Vines, the latter should now be prepared for starting by shortening the canes, if this has not been done, to the desired length, usually 7 to 10 feet, according to the strength of the rods and the height of the house they will occupy. Dress the cut portions with styptic, and as a precaution dress the Vines with an insecticide. The pots will contain a mass of roots, but if the upper 3 inches of soil be removed from among them a rich top-dressing can be applied, which may consist of good turfy-loam, to each wheelbarrow-load of which a 6-inch potful of *Le Fruitier* or Thomson's Vine Manure, and a small quantity of fine broken mortar-rubble and charcoal, may be added. A low span-roofed house, having a chamber or bed running round the sides with hot-water-pipes to augment the bottom-heat afforded by a hot-bed of tree-leaves and stable-litter, and sufficient piping to maintain a stove heat, is a suitable structure for forcing Vines. Thoroughly cleanse the house, then place the Vines 2½ to 3 ft. apart, standing them upon a brick base or upon inverted flower-pots, and fill in the chamber with equal parts stable-litter and Oak or Beech-leaves, packing the material firmly about the pots, but taking care the heat therefrom does not exceed 65° or 70° for a start. Let the canes be coiled round a few stakes, in order to induce an even break, afterwards tying them to the trellis. In order to have ripe Grapes early in the month of April, the Vines should be started the first week in November, with a mean temperature of 50°, a moist condition of the air, and spraying the canes with tepid water twice a day. Three good early varieties are *Black Hamburgh*, *Foster's Seedling*, and *Grizzly Frontignan*. When pruning the Vines, select the well-ripened strong laterals for furnishing eyes for raising pot-Vines, these being preferable to those from later Vines. Heel-in these shoots in a sheltered border out-of-doors until required.

Ripe Grapes.—Ripe Grapes hanging on the Vines must be afforded a dry atmosphere, constant ventilation and, with the exception of *Muscat of Alexandria*, very little artificial heat, excepting in wet or dull weather and at night. Remove all berries which show the least sign of decay, as any neglect in this matter will cause much loss of fruit. Do not allow the Vine borders to become dry, but afford water on a fine, dry morning when it is required, removing the hay or other dry mulch, and returning it immediately after the water is applied. If the vineries are filled with *Chrysanthemums* or other plants in pots, the Grapes, if perfectly ripe, are the better for being cut and placed in bottles in the Grape-room, and the lateral shoots shortened to half their length so as to admit the light.

Early Vineries.—Outside borders should be covered with tree-leaves to the depth of 1½ feet, and over all a straw thatch, made secure with tarred string. Wooden or corrugated-iron shutters or feather-edge boards make this covering still warmer.

Young Vines.—Growth being finished, let the laterals and leading growths be shortened to half their length. If the wood is not quite ripened afford artificial warmth, together with free ventilation.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. FIGOTT, Bart.,
Wexham Park, Slough.

Pot-herbs.—If green pot-herbs are required in quantity in the winter, a heated brick pit or part of one should be set aside for the purpose. The top growth of Spearmint should be cut off close down to the ground with a pair of shears, and the roots lifted with a fork, the soil shaken from them, and then be laid close together on a bed of leaves over which a layer of leaf-soil has been placed, and covered to the depth of 2 inches with leaf-mould, and tepid water copiously afforded once when the shoots appear. Afford plenty of air in fine weather, so as to prevent spindling. Tarragon and Sorrel may be lifted in clumps each with a good mass of earth attached, and be placed in the same pit; but these will need more soil over them than Spearmint, and it should be of a heavier nature. Chives should be lifted and cut over, and the clumps placed side by side. Marjoram should be grown in pots, and ample space allowed between the plants, and be aired freely, or the plants will quickly damp off. Chervil may also be lifted and placed in the same pit, and the last sowing made in a frame or under a south wall. Sweet Basil is a very tender herb, and should be grown in 6-inch pots and kept near the glass in gentle heat. The perennial herbs growing in the herb-border should be cleaned and top-dressed with spent Mushroom-bed manure.

Chicory may be left in the ground till required, but some roots should be taken up and stored in fine coal-ashes before hard frosts occur. To force the roots place them in large pots or boxes and bring on as required in the Mushroom-house, keeping it close and dark. Dandelion roots should be similarly treated.

Cabbage.—Look carefully over the beds and make good any blanks with strong plants from the reserve bed, making the plants quite firm in the soil. Earth up the earlier plants, and keep a sharp lookout for grubs at the root. Should the weather remain open another lot may yet be planted in a sheltered part of the garden, and these may come through a severe winter much better than the earlier plantings, which this season have made unusually strong and soft growth.

Salsify and Scorzonera.—Lift and store the roots in sufficient quantity in sand or fine coal-ashes, leaving most of the crop of roots in the ground to be lifted as occasion may require.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE,
Bicton, Budleigh Salterton, Devonshire.

Hydrangeas.—It is advisable to protect these plants from much frost, or the flower-heads now formed may get crippled, plunging the pots to the rims in fine coal-ashes if wintered in cold frames or pits; but a greenhouse, from which frost is merely kept out, and near the light, is a more suitable place.

Roses.—The plants intended for flowering during January and February should receive the necessary pruning and thinning of the shoots, and if they are not in need of repotting this year the inert soil should be picked away with a pointed stick to the depth of 1½ inch, and a top-dressing of good loam and a small quantity of bone-meal substituted for it after putting the drainage into good order. Tea Roses are better for early flowering than H.P.'s, and they do not require hard pruning, but merely to have the weaker shoots cut back to a strong bud, or removed altogether if the head is likely to get crowded. H.P.'s require closer pruning—that is, down to the second or third bud, according to the vigour of the plant. Stand the pots in a cold-house, and afford full ventilation, and do not keep them wet at the root until they are introduced to heat early in the month of December. The plants in the Rose-house proper should be afforded a like treatment, and the lights merely put on to the roof to ward off heavy rain. Roses in pots for starting early in the new year should be plunged in fine coal-ashes, or long litter should be packed tightly around the pots if glass protection cannot be afforded.

Cinerarias.—Plants from late sowings may still be repotted, and the whole of the stock should be removed from pits and frames to staging erected in a fruit-house, if not required, or to the cooler end of a greenhouse. Let early-sown plants, if the pots are well filled with roots, be afforded weak manure-water once a week, and examine all the plants for the leaf-miner and for a small green caterpillar, both troublesome pests, and fumigate lightly twice a week.

General reminders.—Tuberous-rooted Begonias, Fuchsias, Cassia corymbosa, Cannas, Erythrina crista galli, and Asclepias Curassavica, should be stored out of the reach of frost, but the soil should not be allowed to become dust dry, more especially that in which Fuchsias are kept. Plants of Campanula pyramidalis should be plunged in fine coal-ashes, and a glass light put over them in very severe weather. Rhododendrons, Mollis and Ghent Azaleas, Myrtles, Dentzias, Lilacs, &c., not required before the new year, should also have their pots protected with litter or leaves, and as the earlier-flowered Chrysanthemums go out of bloom and are cut down, place them in unheated pits or frames till the time comes for taking cuttings. Afford but little water, and ventilate freely in mild weather.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq.,
Shipley Hall, Derby.

Calochorti.—Established clumps should have their crowns covered with fine coal-ashes as a protection against severe frost. In late spring this covering should be removed, and some Spruce branches, bracken, or similar material employed instead to protect the growths. These beautiful bulbous plants are much neglected by gardeners, or, if grown at all, it is in flower-pots, under which conditions they are not observed at their best. Though rather tender, the plants are worthy of a little trouble being taken with their cultivation. They succeed on a raised sunny border, such as one adjoining a building if possible, the soil being well drained, and rendered porous by the addition of sand or grit, in which the bulbs may be planted at a depth of about 4 inches. C. pulchellus, C. amoenus and one or two others require shade, and are successfully grown in the wild garden or near the paths in woodlands.

Schizostylis coccinea.—Where this plant is grown in quantity for cut-flowers, a skeleton frame should be placed over the bed or plot, and mats, garden-framelights, or both, may be placed on the former on frosty nights. Under these conditions the plants will, if strong and well-grown, throw abundance of flower-spikes throughout the early months of winter.

Early Chrysanthemums.—In order to grow these varieties to perfection, cuttings should be struck in the spring, the old stools in the open breaking strongly after severe winters. A sufficient number of plants should be cut back, lifted at this season, and either put into pots or boxes in order to provide the cuttings in the spring. For the present the plants may stand in cold frames, but later they should be put into a cool, airy fruit-house, the new growths being liable to damp off in frosty weather if kept in cold frames.

Lobelia cardinalis.—The old stools should be lifted and placed in boxes, treating them similarly to the Chrysanthemums for a time. The plants must be protected from drip and afforded air in fine weather, and but little water at the root during the winter. The seedlings raised under glass as I recommended being done some months ago should be pricked out in shallow boxes and wintered in a house or frame with a minimum temperature of 50°, so as to keep them in a growing state. There is no question as to the superiority of seedlings over divided old plants.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq.,
Droghmore, Maidenhead.

Planting Fruit Trees and Bushes.—This kind of work should be undertaken forthwith on fairly light soils and those of medium texture, but in view of the excessive rainfall planting on heavy soils should be deferred till they are less charged

with moisture. The gardener should pay a visit to some good fruit-tree nursery and select his trees, instead of merely giving his order by post, as he will then get precisely that which he desires. In planting standards of the Apple, Pear, and Plum, I prefer trees three years from the bud or graft to older trees that have been transplanted in the nursery for a year or two. Doubtless such trees may carry a few fruits the year after being planted, but in a few years the younger and more vigorous trees will have outstripped them. Before planting orchards with standards the ground should be trenched, the stations to be occupied by the trees should be marked with a stout stake driven firmly into the soil. In the garden, unless large areas are to be planted it suffices to take out holes 6 to 8 feet wide and 2½ feet deep. The planting should be done carefully, as much depends on a tree getting a good start. In trenched ground holes about 2 to 3 feet in diameter and 1 foot deep are large enough, and some of the finer surface-soil should be placed in the bottom. Then let the roots be spread out regularly around the stem, very strong ones being slightly shortened, or when bruised or much injured by digging out, shortened to a sound tissue. Do not bury the stem more than an inch below the surface, which is sufficiently deep at the time. Having filled in the hole and made the soil firm, put a stout stake or stakes to the tree so as to prevent the wind waving. Some gardeners prefer to use three stakes to a tree placed at an oblique angle with the tree-stem between them, but not touching any one of them, which is readily done with strawband fastenings.

Hints on Work in General.—The fruits of Apples Wellington, Norfolk Beaufin, Yorkshire Greening, Sturmer Pippin, and Winter Queenening, being now mature, should be gathered, as sharp frosts may occur at any time after this date. Let the fruits be stored in as cool a place as possible, or they may shrivel. The fruits of Pears Duchess de Bordeaux, Olivier de Serres, and Winter Nelis should be gathered. These varieties will, in many parts of the country, be of poor quality; still, they may be of use for culinary purposes. Take advantage of fine days to clear betimes weeds from the plantations of small fruit.

THE APIARY.

By EXPERT.

Seasonable Notes.—Feeding should be continued with driven bees and weak stocks, and not discontinued till eight or ten frames are sealed over. Where fully sealed frames can be taken from strong stocks, they should be given to the weaker colony; but in no case should there be fewer than eight frames in a hive for the bees to winter on, and each colony should also be supplied with a cake or two of candy mixed with a little honey in the making from the following receipt:—

Bee Candy.—Into a clean pan placed on the fire put half-a-pint of water to every 3 lb. of crystallised cane sugar; and begin stirring at once till dissolved to prevent it burning. Allow the syrup to boil for a few seconds, then cease stirring and let a drop or two fall on a plate; if it sets at once so that it does not stick to the finger it will do, but if sticky it contains too much water, and boiling must be continued to drive off the excess of liquid. The right condition being reached, remove it from the fire and set the pan in cold water to hasten cooling, stirring briskly all the time until the mixture begins to turn white or granulate and becomes rather stiff, when it may be poured into any convenient mould suitable for the purpose and lined with paper for easy removal and to prevent sticking to the quilts. The crates should be removed and the candy placed over the centre of the brood, and several wrappings of felt, cloth, or flannel placed nicely over to prevent the bees crawling up; over this place several layers of brown-paper, which will not only hold the warmth, but can easily be removed when wet and replaced, thus keeping the quilts dry. Hives in exposed places should be secured by driving a stake firmly into the ground each side of the hive and a stout cord tied to them and passed over the centre of the hive. For double security two additional stakes can be placed in the front and back and secured in the same manner.

Appointments for November.

TUESDAY, Nov. 3	Chrysanthemum and Fruit Shows at Croydon (2 days), Southampton (2 days), Brighton (2 days), Devizes, Barnsley, Plymouth, and Bournemouth (2 days).
WEDNESDAY, Nov. 4	Chrysanthemum and Fruit Shows at Hereford (2 days), Blackheath (2 days), Alexandra Palace, London (2 days), Cardiff (2 days), Dulwich (2 days); Cambridge (2 days), Hanley (2 days), Ascot, Surrey (2 d.), Stoke Newington (2 d.).
THURSDAY, Nov. 5	Linnean Society meets, Chrysanthemum Shows at Exeter (2 days), and Colchester (2 days).
FRIDAY, Nov. 6	Chrysanthemum Congress at Lille, France (3 days), Show at Waterford.
SATURDAY, Nov. 7	Soc. Franc. d'Hort. de Londres meet.
TUESDAY, Nov. 10	Royal Horticultural Society's Committee meet. Lecture on "Merits and Evils of Size;" National Chrysanthemum Society's Exhibition at Crystal Palace (3 days), Chrysanthemum Shows at Birmingham (3 days), Ipswich (2 days), and Oxford.
WEDNESDAY, Nov. 11	Chrysanthemum Shows at Chester (2 days), Buxton, Winchester, Liverpool (2 days), Reading, Canterbury (4 days), Guernsey (2 days), and Rome, Italy (11 days); Rugby (2 days), Corn Exchange, London (2 days).
THURSDAY, Nov. 12	Chrysanthemum Shows at Putney (2 days) and Jersey.
FRIDAY, Nov. 13	Chrysanthemum Shows at Blackburn (2 days), Bradford (2 days), Eccles (2 days), Leicester (2 days), Stockport (2 days), Shemeld (2 days), Nottingham, and Macclesfield (2 days).
SATURDAY, Nov. 14	Royal Botanic Society meet.
TUESDAY, Nov. 17	Chrysanthemum Shows at Belfast (2 days) and West Hartlepool.
WEDNESDAY, Nov. 18	York Chrysanthemum Exhibition (3 days), Hull Chrysanthemum Exhibition (2 days), Bristol (2 days).
THURSDAY, Nov. 19	Linnean Society meets. Scottish Horticultural Society's Chrysanthemum Show at Edinburgh (3 days), Norwich Chrysanthemum Show (3 days), Royal Botanic and Horticultural Society of Manchester's Chrysanthemum Show (3 days).
FRIDAY, Nov. 20	Bolton Chrysanthemum Show.
MONDAY, Nov. 23	National Chrysanthemum Committee meet.
TUESDAY, Nov. 24	Royal Horticultural Society's Committee meet. Lecture on "Pomology as a Study."
WEDNESDAY, Nov. 25	Royal Botanical Society meets. South Shields Chrysanthemum Society's Show (2 days).
THURSDAY, Nov. 26	Irish Gardeners' Association Meeting.

SALES FOR THE WEEK.

MONDAY TO FRIDAY NEXT—	Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.
MONDAY, Nov. 2—	Useful Shrubs, Trees, Roses, &c., at the Nurseries, Burnt Ash Hill, Lee, S.E., by Protheroe & Morris, at 12 o'clock.—280 cases Japanese Lilies, Dutch Bulbs, Spireas, &c., at Stevens' Rooms.
TUESDAY AND WEDNESDAY, Nov. 3 and 4—	Shrubs, Ornamental Trees, &c., at Shortlands Nursery, Shortlands, Kent, by Protheroe & Morris, at 11 o'clock each day.
WEDNESDAY, Nov. 4—	Palms, Azaleas, Roses, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 1 o'clock.—Japanese Lilliums, Palm Seeds, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 5 o'clock.—Dutch Bulbs, Lily of the Valley Clumps, Spireas, &c., at Stevens' Rooms.
WEDNESDAY, Nov. 4, and following day—	Sale of duplicate Orchids at Harefield Hall, Wilmslow, Cheshire, by Mr. John Cowan, of the Gateacre Nurseries, near Liverpool.
THURSDAY, Nov. 5—	General Nursery Stock, at The Nurseries, Cooksbridge, Leves, Sussex, by Protheroe & Morris, at 12 o'clock.
FRIDAY, Nov. 6—	Roses, Shrubs, Fruit Trees, &c., at The Nurseries, Skipton, Yorks, by Protheroe & Morris, at 12 o'clock.—Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30 o'clock.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—45° 8'.

ACTUAL TEMPERATURES:—

LONDON.—Oct. 28 (6 P.M.): Max. 56°; Min. 49°.
Oct. 29 (noon): 54°; sunny, calm.
PROVINCES.—Oct. 28 (6 P.M.): Max. 53°, Dorchester;
Min. 44°, Cape Clear.

Street Planting.

To all those who have to do with the transplanting of trees and shrubs of large size, and particularly to those to whose care is entrusted the planting of trees in our streets and highways, we commend a little book written by the head gardener of the city of Paris,* and which is, therefore, in spite of its small compass, a work of authority. It is written in French, but those to whom that circumstance would offer some obstacle, may yet derive much instruction from the illustrations.

The methods of transplanting, the machinery employed, the care to be given after removal, the cost, and other particulars are briefly and clearly described.

We notice, however, that M. LUQUET, like everyone else, adopts the plan of putting a grating (*grille*) close up to the base of the tree for the admission of air and water to the roots; but that is just the place where such an arrangement is least required. The grating should be fixed at some considerable distance from the trunk, so as to admit air and water to the feeding roots. These, as everyone knows, are at a distance from the trunk. A similar mistake is often made in applying manure close round the base of the tree instead of at a distance. Two or three large gratings at intervals between each tree and its neighbour would be better than the present system; better still would it be wherever possible to have an open border all the way along from tree to tree.

Now that street-planting on an extensive scale will soon be carried out in the new streets in course of construction in London, these details should be attended to. May we also suggest that there are other trees besides the Plane, notably some of the Poplars, and various Maples, which would succeed in London streets, as we have often pointed out. In any case we strongly commend to the notice of our County Council authorities this valuable little treatise.

LINNEAN SOCIETY.—The papers to be read at the first meeting of the session 1903—1904, on Thursday, November 5, at 8 P.M., will be the following:—Mr. L. A. BOODLE, F.L.S., on the "Structure of the leaves of the Bracken, *Pteris aquilina*, in relation to environment." Mr. E. P. STEBBING, F.L.S., F.E.S., on the "Life-history of a new *Monoplebium* from India, with a note on that of a *Vedalia* predaceous upon it, with remarks on the *Monophlebinae* of the Indian region." Exhibitions:—(1) Dr. W. G. RIDGEWOOD, F.L.S., "The frontal bones of a horse, showing a pair of rudimentary horns." (2) Prof. F. E. WEISS, B.Sc., F.L.S., "Preparations and slides illustrating the occurrence of Mycorrhiza in Coal-measure plants." (3) Mr. B. H. BENTLEY, F.L.S., "Photographs illustrating the Pollination of Flowers."

UNIVERSITY OF LONDON: LECTURES IN ADVANCED BOTANY.—In his 3rd lecture at the Chelsea Physic Garden on Tuesday last, Mr. A. D. HALL dealt with the functions of the various elements taken by the plant from the soil. Nitrogen is chiefly concerned in the vegetative development of the plant, the production of leaf and shoot. Excess of nitrogen results in prolonged growth and retarded maturity, and an over-production of dark-green and soft foliage. Phosphoric acid, on the contrary, is associated with the reproductive processes and maturation: at Rothamsted, for

example, the Barley on the plots receiving no phosphoric acid shows green, upright ears, when they have turned down and are yellowing for harvest on the other plots. Potash is necessary for the production of carbohydrates. When Barley is starved as regards nitrogen or phosphoric acid, the few grains of Corn produced are almost normal in size; when the starvation comes from the absence of potash, the grain is more stunted than the rest of the plant. At Rothamsted the Mangolds on the plots receiving potash grow three times more sugar per acre than in the absence of potash. Potash manures are rarely required except for the crops making large amounts of carbohydrate, such as the starch in Potatoes, sugar in Mangolds and Beet and in fruit. The other elements normally present in the ash of the plant were then dealt with, and reference was made to the rarer elements of which traces sometimes occur, and may have a physiological action. Turning to the soil, a series of chemical analyses of typical soils was given so as to show the quantity normally present in the soil of the various elements essential to the nutrition of the plant. These quantities are enormous, even the top 9 inches of most soils contain sufficient material for the development of a hundred full crops. The continuous growth of Wheat at Rothamsted without manure for more than sixty years is further evidence of the enormous reserves of plant-food in the soil. As, however, the land will not continue to give good crops without manure, amounting to a quite insignificant addition to the stores already in the soil, a distinction must be drawn between dormant and active plant-food. Cultivation is the chief agency in rendering the dormant material in the soil available for the use of the plant. Lastly the entry of the nutrient materials was discussed, in view of the fact that the plant appears to exert a selective action, taking the various materials in very different proportions from those in which they are present in the soil. The next lecture will deal with the relations between the composition of the plant and of the soil, and the various theories of manuring which have been based upon the analysis of the plant.

PRESENTATION.—Mr. GEORGE WILSON, who for the past fourteen years has held the position of head gardener to Sir JAMES RECKITT, Bart., Swanland Manor, Brough, East Yorks., and is about to resign with the best wishes of his employer, was made the recipient, at the annual meeting of the Swanland Horticultural Society, of a handsome present from members of the Society and other friends, in the shape of a purse of gold and a Malacca-cane suitably inscribed. The garden staff at Swanland Manor presented him with a travelling-bag as a mark of the good feeling which had always existed between them. Mr. WILSON is well known in the North as a successful exhibitor at horticultural shows, and his services as a judge were much valued by the authorities of many of the best local societies. During his charge of the Manor gardens he has almost remodelled the pleasure-grounds, and during the last two years he has made a new kitchen-garden. Mr. WILSON's many gardening friends hope to see him promoted to the charge of some good garden commensurate with his abilities.

THE COLLERETTE DAHLIA.—The finest variety of this type was President Viger, an illustration of which we published in our issue for Sept. 13, 1902, p. 190. Then there appeared Joseph Goujon; and now Messrs. RIVOIRE, PÉRE ET FILS, of Lyon, have sent us flowers of a number of varieties which show the same modification in their structure. Unfortunately the specimens arrived here in poor condition, but they are sufficiently fresh to show that the type is now represented by varieties of various colours, and more progress may be anticipated.

* *Transplantation en Motte* (Transplanting Trees and Shrubs with a ball).—By M. J. Luquet. Paris: 81bis, Rue de Grenelle.

SPORTIVENESS OF VINES.—A fortnight ago a correspondent reports that he saw a number of instances of "sportiveness" in Vines, but could discover no circumstances to account for this unusual tendency to bud variation. The plants were growing in the vineries of Mr. ALMOND, a cultivator of Grapes for market, at Byfleet, in Surrey, who has 700 feet of wide, span-roofed vineries. In a house containing the variety Muscat of Alexandria there were several instances. On one plant the fruit produced by a particular branch was indistinguishable in appearance from a bunch of the variety Canon

and time will show if the variations are really "sports" that can be fixed. But whether or not, the facts are interesting, especially in view of the little tendency cultivated Vines have shown to bud-variation. In looking through Mr. BARRON'S book *Vines and Vine Culture*, we find descriptions given of 100 varieties. Where it was possible the author gave particulars of the history of each variety, and it is certainly remarkable that in only two instances does he suggest the varieties may have arisen from sports, one of these being the Parsley-leaved Sweetwater known as Ciotat. It is

that in one or two of the instances mentioned above the sports have occurred on the highest shoots of the Vine, but the Muscat sport is nearly at the base. Mr. ALMOND has no knowledge of any grafting or budding having been done.

HERR OSCAR BIERBACH, who has for many years held the post of Inspector at the Botanic Garden of Belgrade, has resigned his appointment and has established himself in Belgrade as a nurseryman and exporter of rare plants. Herr BIERBACH is well known as a botanical traveller, and to him is due the introduction of *Ramondia*



FIG. 129.—FRUIT AND VEGETABLE EXHIBITION AT THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, CHISWICK, SEPTEMBER 29, 30, AND OCTOBER 1. FRUIT IN THE BIG VINERY.

(From a photograph by Mr. Gregory. See ante, p. 241.)

Wall Muscat, and other bunches, though less distinct, appeared to be more or less similar to that, being larger and more rounded than the usual berries of Muscat of Alexandria. In another house Black Alicante Vines bore several variations, one of which, should it prove constant, would perhaps be a welcome variety for market-growers. The berries were larger than those of Black Alicante and nearly round, being therefore more like those of Gros Colmar. But in the same house Gros Colmar on its own roots fails to finish well, whereas this bunch was coloured equally with those of Black Alicante, which have perfect bloom upon them. The sport therefore might prove to be a sort of Gros Colmar that would colour as easily as Black Alicante. We believe that cuttings from some of the shoots bearing sports have been rooted,

admitted that in respect of a large number of varieties of Grapes now in cultivation, nothing is known of their origin, except that they were first discovered at such and such a place. In some of these cases the varieties may have originated as sports, but the fact remains that so far as is known not one first-class Grape has been obtained from bud variation, but all from seed. Experience with many other plants under cultivation is of quite an opposite character, and it would be interesting to learn if our readers have noticed any tendency to "sport" in the Vines under their immediate observation. If the Vine should afford bud variations anywhere, it would naturally be most likely to occur in the large market nurseries, where they are grown in such great and increasing quantities. It may be added

serbica, *R. Nathaliae*, *Saxifraga Grisebachii*, *Pinus Laricio pindica*, and other Alpine plants. We wish our correspondent success in his new venture.

THE RECENT GARDENERS' DINNER.—Mr. A. DEAN writes:—"Kindly permit me to trouble you just once more under the above heading, and at the same time warmly to thank you for so many past favours. At a meeting of the Dinner Committee, held on Tuesday last, the full statement of accounts was presented, showing the income to have been £121.15s., and the expenditure £109.10s. 1d. That left in the Treasurer's hands the sum of £12 4s. 11d. That sum it was resolved should be given as donations to the Gardeners' Benevolent Institution 8 gs., and to the Orphan Fund £4, the Committee making up the balance.

Every service rendered by officials was purely voluntary. Very cordial votes of thanks were given to the Horticultural Club for kindly affording accommodation, to LEOPOLD DE ROTHSCHILD, Esq., for his munificent liberality, to Viscount DUNCANNON for presiding at the dinner, to MESSRS. JAS. VEITCH & SONS for their splendid table decorations, to the Horticultural Press, and to the officers. A sample picture of the dinner, taken by flash-light by Messrs. FRADELLE & YOUNG, was shown, and was by all regarded as presenting an excellent pictorial memento of a most interesting and unique event."

CHRYSANTHEMUMS IN LIVERPOOL.—The Liverpool district has been famed for the cultivation of Chrysanthemums for many years past, and

"JOURNAL OF BOTANY": CHANGE OF ADDRESS.—The address of the Editor is now 41, Boston Road, Brentford, W.

"THE ORCHID."—The opening of the new Gaiety Theatre was celebrated by the performance of a piece under this name. Mr. AUBREY CHESTERTON—not the Orchid collector of that name!—who is got up to simulate a very well-known Orchid-grower and ex-Minister, makes a bet with M. BELCASSÉ that he will produce a second specimen of a rare Orchid, which the latter thinks unique. Mr. "CHESTERTON" succeeds through the mediation of a gardener at a ladies' horticultural college and a professional Orchid hunter. We cannot enter into all the details, but chronicle the event as probably the

F.R.S., of Thornliebank, the founder of the famous firm of calico-printers, and also of the thriving model village which has grown up around their works. The whole estate is fenced by tall spreading trees, and its amenities are practically secure. It embodies the lands of Rouken, Davieland, and the Wood Farm, and extends to about 350 acres. The part which has been purchased by Mr. CAMERON CORBETT as a public park covers 136 acres or thereby, and has cost £24,000, independent of the mansion-house, which cost £30,000. The balance of the estate is better suited for feuing than for the purposes of a public park, and it has been acquired by the Hutcheson Trust for the former purpose. The total cost of the estate to be purchased by Mr. CAMERON CORBETT for the park, and by the Hutcheson Trustees for feuing purposes, is £46,000. Of this Mr. CORBETT will pay £24,000 for the park land, not reckoning the £30,000 spent on the mansion-house, and the Hutcheson Trust will pay the balance of £22,000 for the land for feuing.

"THE GREAT MASTERS."—Mr. HEINEMANN, 20, Bedford Street, London, has sent us a specimen of the publication he is bringing out under this title. It consists of a series of large-sized illustrations in photogravure of some of the most remarkable pictures in various galleries, public and private. There can, we think, be no question that these are for the price asked the finest reproductions ever seen. The lights and shades, and the general tone are so excellently rendered that the illustrations will be a source of joy to lovers of art and to others who make no pretence to do more than admire what they see. In future numbers it would add to the value of the text if some indications were given of the colour-scheme of the originals. As a matter of detail with which we are concerned we may add that the very beautiful landscape by JAN HACKAERT, entitled "The Ash-tree Avenue," seems to represent White Poplars rather than Ash-trees.

TRANSPORT OF SEEDS.—From a recent number of the *Revue Horticole* we learn that the French agricultural authorities have been recently experimenting with a view to ascertain the best methods of introducing seeds from Ceylon to Madagascar. The seeds were those of a Rubber-tree, *Hevea brasiliensis*. The seeds were stratified (1) in Coconut-fibre, or (2) in the same material roughly powdered; (3) in powdered charcoal; (4) sown in Ward's cases. The seeds were a month in transit, and on arrival it was found that (1) were in good condition, so that about 80 per cent. germinated. In (2) the percentage was not more than 65. In (3) no seeds had germinated on the voyage, and at the end of the year not more than 53 per cent. had germinated. In (4) Ward's cases, all the seeds germinated, and the plants arrived in good condition. Packing in powdered charcoal was in all ways the least satisfactory.

MADMOISELLE LÉONIE VAN HOUTTE.—We learn from the *Bulletins d'Arboriculture*, for the information has singularly not reached us from any other source, of the death of this lady, who will be remembered by our older readers as having taken a very prominent part in the administration of the famous nurseries founded and conducted by her father. Mlle. LÉONIE VAN HOUTTE died at Ghentbrugge on September 18, at the age of 62, regretted and beloved by all who knew her.

MADAME LINDEN.—We regret to have to announce the death, on October 13, in her eighty-fourth year, after a long illness, of Madame LINDEN, the widow of the late JEAN LINDEN, the famous botanical traveller and horticulturist. Madame LINDEN was well known to many of our older readers, who will sympathise with the bereaved relatives.



FIG. 130.—PEAR, THE CONFERENCE. (SEE P. 300.)

from a notice appearing in the *Liverpool Mercury* it is evident that the collection of plants now in bloom in the Botanic Gardens there is as good or better than usual. The house containing most of the plants is 110 feet long, and in addition to 500 plants of the large-flowered varieties there are 700 single-flowered plants arranged on the shelves around the sides. In other houses there are 400 plants of decorative varieties. The collection is representative of the best varieties, and the cultivation has been excellent. The Curator is Mr. JAMES GUTTRIDGE, who left Kew some thirteen years ago.

THE RAINFALL.—The rain it raineth every day—and all night too. At present near London we have already had 33.10 inches, more than fell in 1879. The total deficiency to be made up, however, is 39.08 inches, so that we have a good deal to come yet to balance the account over a series of years.

first occasion in which the "Orchid" and Orchid-growers have been brought before the public in this way.

NEW PARK FOR GLASGOW.—Mr. CAMERON CORBETT, M.P. for the Tradeston Division of Glasgow, has decided to present to the Corporation of Glasgow, to be used for a public park for the citizens for all time coming, the better half of the estate of Thornliebank, and also the mansion-house, at present his residence, to be used for public purposes within the discretion of the Corporation. Mr. CORBETT stipulates that no license shall be granted on the estate. Thornliebank estate lies about 4 miles from the centre of Glasgow, and about 1½ mile from the present terminus of the tramways at the Round Toll, Pollokshaws. Thornliebank was originally part of the Eglinton estate, but for many generations it has been in the possession of the CRUM family, the property having been acquired by Mr. WALTER CRUM,

NATIONAL FRUIT AND CIDER INSTITUTE.—

The Managing Committee of the National Fruit and Cider Institute met at Long Ashton on the 24th inst., to inspect the new buildings and to arrange for planting a part of the land. The Superintendent *pro tem* of the Fruit Department, Mr. JOHN ETTLE, was instructed to mark off stations for Apple and Pear-trees in the field intended for an orchard of the most popular varieties of vintage fruits, and also to make preparations for planting them. One-half of the Apple-trees will be grown on what is known as the Hereford system, i.e., ready-grafted with the variety they have to bear; and the others on the Somerset system, i.e., trees of strong-growing varieties, such as Morgan Sweet, Ecklinville, &c., to be regrafted in a year or two after planting.

abilities as a gardener-botanist, and referred to his unvarying courtesy and readiness to help forward any movement having for its object the advancement of horticulture in Birmingham, which city he had been closely identified with for a period of about thirty-five years. He had taken an active part in the management of the local Chrysanthemum society, of which he was chairman, for thirty years. He had also been chairman of the Gardeners' Mutual Improvement Society since its inception seventeen years ago; and for nearly the same time acted in a similar capacity to the Birmingham spring flower shows. The first two societies are still in a flourishing condition, but the last-named, owing to lack of funds, came to an end several years ago. Mr. MARTINEAU expressed the wish that their old

HOME CORRESPONDENCE.

PEACH BUD DROPPING.—The reviewer of *The Book of the Peach* remarks with respect to Peach-bud dropping that looseness of soil, absence of lime, and want of water at the roots, are the primary causes of bud-dropping. As I have obtained another solution of the problem, it may be of benefit to others. During the fifteen years I was at Avery Hill there was, up to the eighth, an annual occurrence of bud-dropping. The three points above mentioned as causes could not refer to my case, as the soil was heavy, with abundance of lime, a lime concrete bottom, the whole firm, and dryness never allowed. Of many suggestions and remedies tried all proved a failure, therefore some other cause had to be looked for,

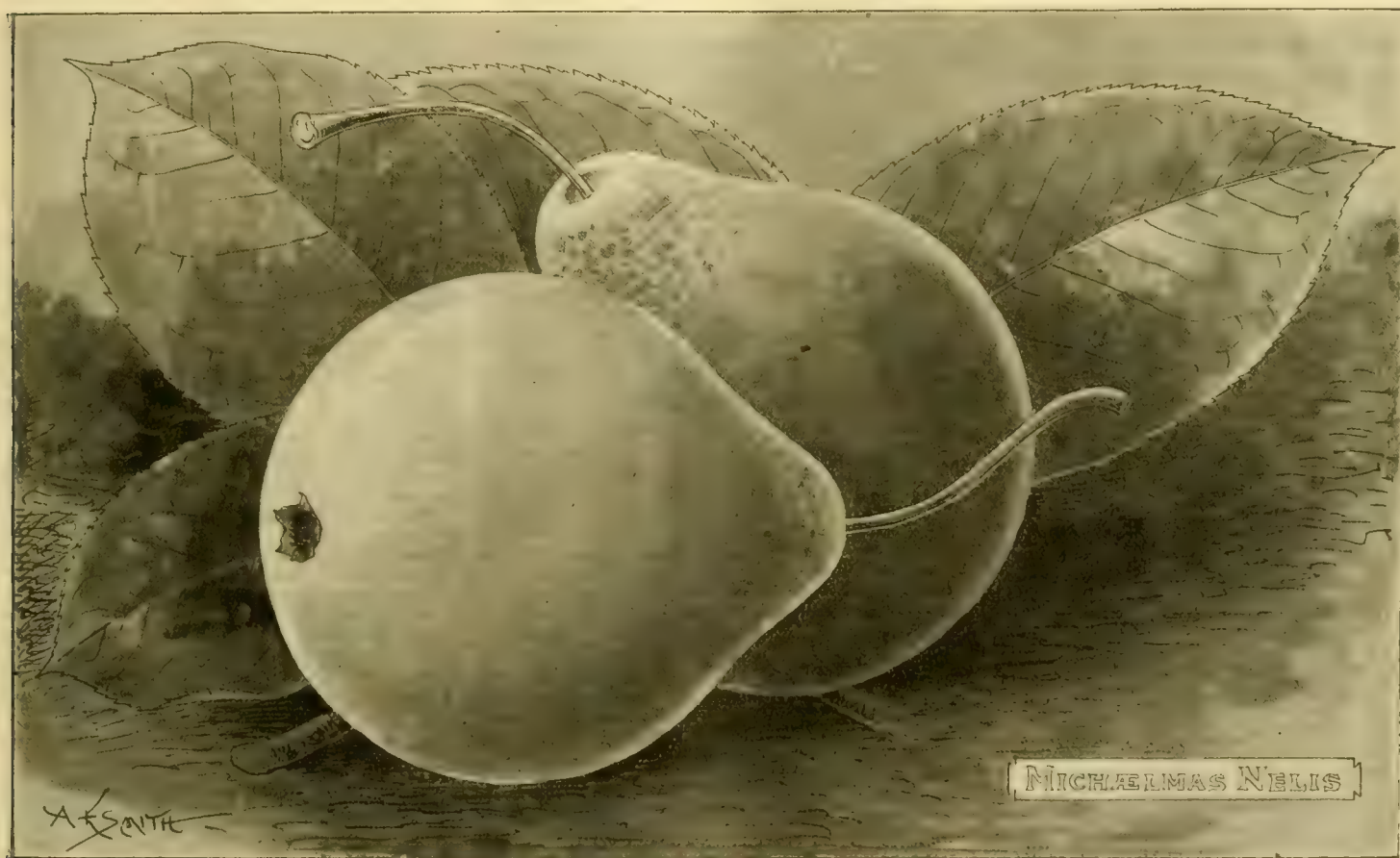


FIG. 131.—PEAR, MICHELMAS NELIS. (SEE P. 300.)

A plot of land was selected to be prepared for a plantation of standard, bush and other trees of all kinds of fruits as well as Apples. Another part of the field will be used as a nursery. It was also decided to advertise for a man capable of taking charge, under supervision, of the Fruit Department, preference to be given to one with a practical knowledge of cider-making.

COMPLIMENTARY DINNER TO MR. W. B. LATHAM.—

About sixty horticultural and other friends, resident in and near Birmingham, entertained Mr. W. B. LATHAM at dinner at the Colonnade Hotel, New Street, Birmingham, on the 22nd inst., for the purpose of presenting him with an illuminated address and a purse of gold on his retirement from the curatorship of the Botanical Gardens, Edgbaston. The chair was occupied by Mr. OWEN THOMAS, V.M.H., of London, an old and esteemed friend of Mr. LATHAM. Mr. Councillor MARTINEAU, in making the presentation, referred to Mr. LATHAM's long and honourable connection with the Birmingham Botanical Society, eulogised his

friend might live long to enjoy the rest he so richly deserved. On behalf of the Midland Carnation and Picotee Society, Mr. PARTON, Vice-President, acknowledged in graceful terms the Society's indebtedness to Mr. LATHAM for advice and assistance rendered on the occasion of the Society's annual display of flowers in the Edgbaston Botanical Gardens. He asked Mr. LATHAM to accept a large photograph of the principal growers and exhibitors of Carnations in the Midlands. Mr. LATHAM, who was much affected by the warmth of feeling, akin almost to affection, thanked them most sincerely for their kindness.

PLANT PORTRAITS.

CALISTEMON LANCEOLATUM.—*Revue de l'Horticulture Belge*, October. Hard-wooded greenhouse plant from New South Wales; leaves lanceolate; flowers in crimson spikes.

COLYTEDON MACRANTHA HORT. (NON HAWORTH)—*Revue Horticole*, October.

PEAR LE BRUN.—A large Pear, ripe in September and October; flavour pleasant. *Garden Flora*, October.

and a remedy was found by removing some overgrown fan-trained trees to an outside wall about the eighth year, with the result that those removed outside retained every bud the first year and after, and those left inside dropped their buds as usual; so that I came to the conclusion that the cause of the bud-dropping was the premature development of the buds caused by the necessary closing of the ventilators on account of plants being put in when the Peach-house should have been kept cool and open. The situation of the Peach-house, too, was such as to receive an extra amount of sunshine, it being above the level of a long range of fruit-houses, and the west end receiving sun up to 8 p.m. and after, that end being wide, high, and deep, which caused the house to get excessively hot. As a remedy, the end of the house was whitewashed, properly ventilated, especially after the fruit was all gathered, and no plants kept in it, thus reducing the temperature to a normal state, with the result that from the ninth year to 1902 no more buds dropped; and the trees that were removed outside were taken inside again (not in the same house, but in exactly the same soil and border), and no buds dropped. A

friend of mine, too, in the same neighbourhood had similar trouble, and I found his house in a position to receive the sun until it went down, always excessively hot and insufficiently ventilated; but, as my remedy was not practised, it only gives one side to the question. In my case the remedy was proof enough of its cause, and I may add that up to the eighth year at least 80 per cent. of the buds dropped, we nevertheless had a fair crop; and after the remedy of bud-dropping, those trees left in being veritable giant orchard standards, had to be secured with a network of wires to the roof to support the loads of fruit. The system of standards I venture to state is not practised enough, as they have many advantages over those fan-trained on trellis, and few disadvantages, excepting one, that the inside fruit does not colour so well. Whatever houses I have to plant in the future I should adopt this system, and employ no fan-trained trees. Have the trees grown for the house and the house built for the system; span-roofed running north to south, not, as in the old, east to west. *G. Abbey, junr., 2, Ivinghoe Villa, Portland Crescent, Nottingham.*

HUMEAS AND PEACHES.—Upon reading the remarks of your correspondents in the recent issues of the *Gardeners' Chronicle* concerning the injury caused to Peach-trees by Humea elegans, I must confess to feeling somewhat surprised and sceptical on the matter after my own experience of growing them in Peach-houses in both past and present seasons without observing the slightest ill-effect. During the early months of the present year I placed in a Peach-house a batch of about three dozen plants of Humeas, which were staged under the Peach-trees, occupying the front part of the house; they remained there for several weeks during the period the trees were in active growth—a time when perhaps the foliage is more susceptible to injury such as that described than at any other period; yet at the time the Humeas were removed there was not a shoot or leaf but what appeared in excellent health, and without a sign of the injury as noticed by Mr. Fyfe and others. I may mention that the house in question is not one in which the trees are forced, and is therefore not a closely confined one, but was at that time ventilated and closed according to the state of external conditions—sometimes closed for a period long enough, as described by your correspondents, to cause the injury. The Humeas when removed were within 2 or 3 inches of touching the foliage of the Peaches. After this it is difficult for me to understand why the experience of others in growing both subjects together should be entirely opposite to my own, and that of "Foreman's" as published in last week's issue, unless it is in the governing conditions of the atmosphere in the house in which they are grown in being more closely confined in one instance than another, and thereby causing a greater density of the emanations in whatever form they may be from the Humeas, and resulting in the assumed injury. It is a peculiar fact, and perhaps a matter for reflection, that after the number of years the Humea has been grown in gardens, and without doubt in Peach-houses, that this matter should only just come to light and be discussed in the pages of the *Gardeners' Chronicle*. It would be highly interesting to have the experiences of others on this subject, as doubtless there are many who have grown both together for a number of years with experience either one way or the other. *R. Barton.*

BLACKBERRIES.—*Rubus laciniatus* and its varieties are not nearly so extensively grown as their merits deserve, and I am confident that where *R. laciniatus* is once introduced into a garden and given a fair trial it would quickly establish for itself a foremost position amongst the minor varieties of garden fruits. Being in the vicinity of Forest Hill a few days ago, I had the pleasure of inspecting the garden of H. G. Smyth, "the raiser of Mary Morris and Jim Smyth Carnations." I found that he had made a special feature of the cultivation of the Blackberry, and despite the lateness of the season, the sight presented was one that could not fail to please even the most fastidious. The growths were trained horizontally over a row of 12 feet canes, which latter was interlaced in from eight

to ten rows with stout wire, and formed an espalier which was clothed from top to bottom with sprays of lovely fruit, averaging from fifty to sixty berries on each, nearly all as large as the finest Raspberry. Mr. Smyth told me that he had gathered between 60 and 70 lb. of fruit in ten days from a row 25 yards in length. I measured some of the longest canes of this season's growth, and found several upwards of 27 feet in length. *George Parrant, Bexley, Kent.*

ORCHIS HIRCINA.—On the same date that Mr. G. Druce records the finding of the Lizard Orchis in Kent, I found a remarkably fine specimen in the far north-east of Norfolk—quite a new station, I believe. As the spike was nearly eaten through at the base there seemed to be no chance of seeding it, and I therefore took the spike, which is about 18 inches high. After many hours' searching I failed to find another specimen. The species being so nearly extinct, it would be interesting to know what steps are being taken to prevent the total loss of such an interesting flower. *F. J. Cole.*

SCARCITY OF MUSHROOMS.—A correspondent, on p. 292 of the *Gardeners' Chronicle*, requires an explanation as to why Mushrooms have been so scarce this year. Is not the cold, wet, sunless year the cause of the failure? Here we have only been able to gather about a dozen dishes; last year the harvest was almost as bad, also, as I contend, on account of the wet, cold weather. In previous years the crop has been enormous here. In 1901, which was very hot, we could have gathered during the Mushroom season a bushel per day on a very small area of ground forming a part of the park, and not including those scattered about all over the park, cricket and tennis grounds. Curiously enough in one spot several clusters come up yearly in one of the carriage-drives, and these appeared as usual this year. *A. Jefferies, Gardener, Moor Hall, Harlow, Essex.*

REVERSION IN ODONTOGLOSSUMS.—After a careful perusal of Mr. R. Ashworth's note (p. 292), I have come to the conclusion that he has not properly understood my article to which he refers. It clearly states two results, both obtained from unspotted crispums, crossed by a heavily "blotched crispum" in the first case, and a natural hybrid in the second. Considering as I do that a "blotched crispum" is a hybrid or the result of hybrid origin and not a true crispum, I contend that the unspotted mother plant has proved her prepotency whereby the resulting seedlings have reverted to the unspotted form, and are trying to perpetuate the original crispum by the elimination of the marks of hybridity. I have not yet bloomed a seedling from two hybrid parents, but when these flower I fully expect them to show reversion, though perhaps in a less marked manner. Likewise I anticipate that two "blotched crispums" will not even produce a progeny all of whom contain blotches as do the parents, and I think I can even go further, and expect that when a "blotched crispum" is fertilised with its own pollen, the law of reversion will still be evident. Since I wrote the article in question, an additional interesting result has appeared in *Odontoglossum crispum*-*Harryanum* *brugense* (*Gardeners' Chronicle*, October 24, 1903, p. 282), a bloom of which Mr. Fritz Sander showed me. It was raised upon *O. Harryanum* crossed by *O. crispum* *Bonnyanum* *roseum*. The areas in *Harryanum*'s sepals which correspond to the position of *Bonnyanum*'s blotches, are almost solid brown, yet the same area in the hybrid contains almost the least blotching of the sepal. Reversion again. *De B. Crawshaw, October 26, 1903.*

THE RECENT GARDENERS' DINNER.—I agree with Mr. Dean that to make this an annual event would be to court failure as regards the numbers attending, as it is most unlikely that such an array of the profession as attended last September could be prevailed upon to be present at such an event every year, especially those residing at a great distance from London, like myself. I think it would be more likely to catch on if held every third year, and not confined solely to the autumn fruit show, but held alternately in conjunction with the Temple Show held at the end of May. I consider the latter to be more of an educational exhibition than those held at the Palace during the last few years, because at the

May show, fruit, flowers, plants, and vegetables are in all cases staged in good condition, whereas at the Palace nothing but fruit could be exhibited. It would be well to have the opinions of country gardeners generally before anything definite is determined by the committee who arranged the recent festival. *James Mayne, Bicton.*

Obituary.

W. BEALE.—We regret to record the death, on Sunday last, of Mr. W. Beale, gr. to E. A. Hambro, Esq., Hayes Place, Kent. It will be remembered that Mr. Beale exhibited some capital Grapes at the Drill Hall meeting on October 13. (see p. 279, *Gardeners' Chronicle*, October 17), when he was apparently in his usual health. Subsequently he developed pneumonia, and was ill only a few days.

EMILY READER JACKSON.—On the 27th inst., at Claremont, Lympstone, Devon, after a long and painful illness, Emily, the beloved wife of John Reader Jackson, late of the Museums, Royal Gardens, Kew. The sympathy of Mr. Jackson's numerous friends will be extended to him in his distress.

SOCIETIES.

ROYAL HORTICULTURAL.

OCT. 27.—The usual fortnightly meeting of the Committees took place on Tuesday last in the Drill Hall, Buckingham Gate, Westminster. There was a better display than could have been expected at this season, the hall being conveniently full of plants and cut flowers.

The show of Orchids was unusually large, there being several large groups of plants. This Committee recommended as awards to novelties three First class Certificates, one Botanical Certificate, and three Awards of Merit.

The FLORAL COMMITTEE had a large number of groups for inspection, and awarded as many as twelve medals. There were novelties in ornamental-leaved Begonias, Ferns, Chrysanthemums, and other plants, and in seven instances Awards of Merit were recommended.

The FRUIT AND VEGETABLE COMMITTEE alone had little to do, the exhibits comprised merely a few roots of Celeriac, a dish or two of Apples, and a peculiar Marrow.

In the afternoon a Lecture upon "Pruning Roses," by Mr. Vivian Morel, was read by the Rev. W. Wilks, M.A., secretary. The attendance was good throughout the day, and a considerable number of new Fellows were elected previous to the reading of the lecture.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. C. T. Drury, H. B. May, Jas. Walker, R. Dean, John Green, J. F. McLeod, John Jennings, W. Howe, C. R. Fielder, Charles Dixon, J. A. Nix, Charles Jeffries, R. C. Notcutt, H. J. Cutbush, C. E. Pearson, W. Cutbush, H. J. Jones, E. H. Jenkins, M. J. James, C. E. Shea, George Nicholson, Edward Mawley, R. W. Wallace and E. T. Cook.

Begonias of the Gloire de Lorraine type were shown by Mr. G. LANGE, Hampton, Middlesex, who had a group of well grown plants of the type and a group of Gloire de Lorraine alba, a variety that appeared to be very similar to the Turnford Hall. The flowers of the variety shown by Mr. LANGE were of large size, but they are tinted rather than pure white (Silver Banksian Medal).

Dahlias still formed a part of the exhibition. Messrs. THOS. S. WARE, Ltd., Feltham, Middlesex, had quite a large collection of blooms of Show, Cactus, Pompon, and single varieties. Five Bamboo stands were decorated with as many varieties of a type that has been called "single Cactus," and so used they had a very pretty effect. Alice Lee, pink colour, and Queen Mary, white, were the best (Silver Flora Medal).

Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, had a large exhibit of Cordylines (*Dracenas*) arranged on the floor of the hall. These plants were pretty little specimens in 5-inch and 6-inch pots, and included some of the choicest and best varieties (Silver Banksian Medal).

Messrs. WM. BULL & SONS, New Plant Nursery, King's Road, Chelsea, exhibited some choice foliage plants, *Dracena Goldieana*, *Davidsonia purpurea*, and some very pretty varieties of ornamental-leaved Begonias.

Messrs. W. CUTBUSH & SONS, Highgate, London, N., and Barnet, Herts, showed a collection of hardy

flowers, including border Chrysanthemums, Pentstemons, Spiræa Anthony Waterer, Pernettyas, Skimmias, and other berried plants, shrubs, &c. The pretty little orange-coloured *Tritoma MacOwani* was included. Messrs. W. CUTBUSH & SON, Highgate, had also an exhibit of indoor ornamental foliage plants, including *Aralia*, *Codiaeums*, *Dracæna Doucettii*, *D. Massangeana*, &c. (Silver-gilt Banksian Medal).

Mr. JOHN RUSSELL, The Richmond Nurseries, Richmond, Surrey, showed a small but an interesting group of shrubs grown in pots. These consisted of well-berried shrubs of *Skimmia japonica* var. *Formani*, *Aucuba vera*, equally bright-looking but having larger bunches and fruits; *Cotoneaster horizontalis*, in a minor degree in fruit; numerous bush or tree Ivies in green and variegated varieties; *Ligustrum japonicum* tricolor, leaves rosy-pink, creamy-white and green; *L. ovalifolium aureum*, *Eurya latifolia* variegata, *Olearia nitida*, *O. stellulata*; a few species of *Vitis* and *Ampelopsis*, *Bambusa stricta aurea*, a dwarf yellow variegated species, *Eleagnus* in variety, and many others (Silver Banksian Medal).

Messrs. B. S. WILLIAMS & SON, Upper Holloway and Finchley, exhibited a mixed group of stove plants, among which we noted *Dracæna Vandendellii*, a plant of robust growth, the leaves of a great breadth and of dark-green tint, the younger ones of cream colour tinted with pink, the leaf-stalks pinkish on the wings; *D. Bruantii*, with dark-green leaves; *D. Desmetiana*, a plant resembling *Vandendellii*, except in having narrower leaves; *D. Lindeni* in excellent form, and a small number of varieties of *Codiaeums*, including the gorgeous Emperor Napoleon III.; warm-house *Aralias*, *Begonias*, *Cypripediums*, *Lycopodium*, *Oncidium varicosum*, &c.

Messrs. HUGH LOW & CO., Bush Hill Park Nursery, Enfield, showed two dozen plants of winter-flowering Carnations, growing in 48-pots, all very bright and pretty; a white flowered variety with fimbriated petal is Norway; also Queen Louise with a smooth edge to the petal; Crossbrook, a cerise pink-coloured full flower; Ethel Crocker, a similar bloom; and Floriana, bright pink.

Messrs. J. VEITCH & SONS, Chelsea, showed winter-flowering varieties of *Begonia*. We noted the new Julius, a semi-double flower of a soft pink tint; *Idéale*, very dwarf, and an enduring bloomer; *Agatha*, a very dwarf form of the *Gloire de Lorraine* type, a cross from *B. socotrana* and *B. Moonlight*; *Agatha compacta*, dwarfier than the other (*B. socotrana* and *B. natalense*); *B. Mrs. Heal*, still one of the brightest varieties; *Dædalanthus parvus*, very profusely furnished with its deep purple-coloured flowers; and *Salvia Pitcheri*. This firm likewise showed a number of choice varieties of Zonal Pelargoniums having shapely trusses, both double and single-flowered (Silver Flora Medal).

Begonia Mrs. Mary Guthrie, a very large, rose-coloured single variety, was shown by D. C. GUTHRIE, Esq., East Haddon Hall, Northampton (gr., Mr. H. Trueman). It was described as a sport from *Gloire de Lorraine*, but it was thought by growers that some accidental mistake must have been made.

Carnation Sylvia, a large flower, white flaked with red colour, was shown by A. JAMES, Esq., Coton House, Rugby (gr., Mr. A. Chandler).

Begonia manicata variegata cristata was exhibited by Messrs. SANDER & CO., St. Albans. The plant had grown very strongly, and by reason of the crested leaves had an effect when seen at a little distance similar to some of the ornamental Kales.

A group of Roses in pots interspersed with *Lilium auratum*, *Lilies of the Valley*, &c., from retarded bulbs and crowns, was shown by Mr. J. AMBROSE, The Nurseries, Cheshunt, Herts (Silver Banksian Medal).

Messrs. B. LADHAMS, Ltd., Shirley Nurseries, Southampton, exhibited a number of hybrid *Lobelias* obtained from crossing *L. cardinalis* with *L. syphilitica*. These hybrids now afford considerable variation in colour.

CHRYSANTHEMUMS.

Mr. NORMAN DAVIES, Framfield Nurseries, Uckfield, Sussex, made an imposing exhibit of cut blooms, some of which were disposed in high trumpet-shaped glasses, and others in handsome vases and on boards, &c. In the trumpet glasses were very large blooms of Madame Carnot, Mrs. Mease, F. S. Vallis, Miss Mildred Ware, and others. The yellow Japanese, F. S. Vallis (Calvat), was shown very large, and the quality of the blooms generally was very high. There were several seedlings also that we have not observed before. Such was Mrs. Charles Davis, rich gold coloured Japanese, with broad, twisted florets, very deep flower. It was

obtained from a cross between the varieties Duchess of Sutherland and J. R. Upton. Several others promise well. We noticed a grand bloom of Mrs. F. W. Vallis, a crimson Japanese (Silsbury), which is certainly a fine contrast and excellent companion for the yellow F. S. Vallis. There were some of the best decorative varieties also, and the exhibit generally was staged in capital taste (Silver-gilt Flora Medal).

Messrs. H. CANNELL & SONS, Swanley, exhibited cut blooms of Chrysanthemums and of zonal Pelargoniums. Among the new Japanese Chrysanthemums were Alfriston (Australian), crimson with bronze reverse, very broad florets; Camden (Australian), flesh-tinted mauve colour; and Jean Calvat, bronze and yellow-coloured Japanese, raised by M. Calvat. There were several other Japanese varieties and a few pretty single flowers, as Progress, brownish-red with yellow centre; White Duchess, and Marguerite, an informal stellate flower. The collection of zonal Pelargoniums included about forty varieties, and the flowers were of the large size and brilliant colours Messrs. CANNELL have frequently presented for exhibition (Silver Flora Medal).

Mr. H. J. JONES, Ryecroft Nurseries, Hither Green, Lewisham, S.E., exhibited a collection of Chrysanthemum blooms, and one of perennial Asters. The varieties of Aster were of the later blooming sorts, and were very pretty in spite of the deluge. The Chrysanthemum blooms were arranged tastefully in handsome vases of different sizes, and on boards, &c. Among the more noticeable blooms were the varieties Miss Mildred Ware, Lady Acland, Henry Perkins, Lady Hopetoun, Philippe du Cros, Lady M. Conyers, F. S. Vallis, &c. Some of the best decorative varieties were shown in company with the collection of exhibition sorts (Silver Flora Medal).

Mr. W. J. GODFREY, Exmouth Nurseries, Devonshire, exhibited an interesting lot of Chrysanthemum blooms, being awarded a Silver Banksian Medal. Some of his previous novelties were shown in excellent condition, as Exmouth Rival (fine crimson colour), Mafeking Hero, Sensation, Queen Alexandra, and others. There were also novelties of the present season, as Colonel Weatherall, Yellow Japanese, H. E. Hayman, and others.

Mr. GEO. CARPENTER, The Hollies Gardens, Weybridge, sent some pretty seedling varieties of Chrysanthemums.

Messrs. W. WELLS & CO., LTD., Earlswood, Redhill, Surrey, arranged a large semi-circular group on the floor near the entrance from James Street. The group contained single, double-flowered, decorative, Japanese, and other sections into which the Chrysanthemum is now divided. Of the important large-flowered Japanese there were many cut flowers, and small plants exhibiting heads of enormous size so admired by many of the public. The colours of these monsters are, in many instances, pleasing, harmonious, and refined, and we may here name such as pleased us most, viz., Mrs. E. G. Fox, crimson, with centre florets of an old gold tint; Lord Alverstone, a deep crimson flower with florets here and there that turn up, revealing a yellow tip; Lord Overstone, which has the same peculiarity only increased; Reginald Godfrey, a flower with almost a shade of scarlet; Matthew Smith, orange coloured, with incurving florets; Mrs. Allen, with rosy-purple drooping florets showing a white reverse; Claremont, with very broad incurving florets of a blood-red tint showing the reverse side of many which is golden-yellow; Mrs. S. McKinley, a globular bloom of "old gold"; S. T. Wright, with straight outstanding florets of a crimson tint; Miss Elaine Fulton is a beautiful white with florets that incurve; Mrs. T. W. Pockett, a canary-yellow variety; Mr. T. Carrington, rosy-purple, the reverse lilac; Meynell is a fine large crimson-coloured bloom, with the reverse of the florets old gold; Mrs. W. Duckham has a confused-looking globular head of a bright yellow tint; Mary Inglis, an immense light-copper-coloured flower; President Nonin, &c. (silver-gilt Banksian Medal).

Awards.

Begonia His Majesty.—This hybrid and the one which follows have been raised by Messrs. SANDER & SONS, from crosses between B. Rex variety and B. Bowringiana, a species obtained by Dr. Henry in China. In each of the handsome seedlings there is strong evidence of the prepotency of the female parent. "His Majesty" was from a cross in which B. Rex var. was the seed bearer, and it has oblique leaves that nearly resemble in form those of B. Rex. In colour there is a mixture of reddish tint and silvery-white, both obtained from B. Rex, but in the centre of the leaf is some velvety-brown colour chiefly around the veins. This colour is that of B. Bowringiana.

B. × *Our Queen*.—B. Bowringiana being the seed bearer in this case, the leaves are much more acuminate. The prevailing colour is velvety-brown, but at about 1 inch from the margin there is a zone or band of bright green colour, thickly spotted with reddish spots. Both hybrids are very attractive, and particularly this one.—From F. SANDER & CO.

Chrysanthemum F. S. Vallis.—This is a very smooth Japanese flower of large size and considerable depth; colour yellow. The flower is similar in build to those of the Mme. Carnot section.—Shown by Mr. W. J. GODFREY, Mr. NORMAN DAVIES, and Mr. H. J. JONES (Award of Merit).

Chrysanthemum Maude du Cros.—A large pale yellow-coloured Japanese with long twisting florets of moderate breadth. Shown by Mr. Bullimore, gr. to DU CROS, Esq., Canons Park.

Chrysanthemum Miss E. Holding.—This is a promising incurred flower of silvery-mauve colour. Shown by Mr. W. SEWARD, Hanwell.

Erica gracilis nivalis.—A white or very palely tinted variety of this well-known Heath. Shown by Messrs. GREGORY & EVANS, Longlands Park Nursery, Sidcup, Kent.

Nephrolepis Weston.—This is a prettily crested variety, differing from N. Mayi in that the pinnae alone have crests. The end of the frond is plain. Shown by Messrs. GRAGG, HARRISON & GRAGG, Merivale Nurseries, Heston, Middlesex.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the Chair); and Messrs. Jas. O'Brien (Hon. Sec.), J. Gurney Fowler, H. Little, J. Wilson Potter, W. H. White, W. H. Young, W. Boxall, J. W. Odell, F. J. Thorne, M. Gleeson, G. F. Moore, F. W. Ashton, A. A. McBean, F. Wellesley, E. Hill, J. Douglas, J. Colman, Norman C. Cookson, H. M. Pollett, H. Ballantine, W. Cobb, and W. A. Bilney.

There was the finest show of Orchids seen at the Drill Hall for a long time.

Sir HENRY SCHRODER, The Dell, Egham (gr., Mr. Ballantine), was awarded a Silver-gilt Flora Medal for a very fine group, which included the handsomely blotched *Odontoglossum crispum* Sanderianum, one in the front rank of spotted *Odontoglossums*; the pure white *Dendrobium Phalaenopsis hololeucum*, and the fine original form of *D. Phalaenopsis Schroderianum*; *Cattleya × Fabia*, The Dell variety, a grand dark ruby-crimson form with mottled petals; *Cattleya Bowringiana*, the original variety sent out as *C. autumnalis*; good *Lælio-Cattleya × Haroldiana*, L.-C. × Maroni, fine forms of *Cattleya labiata*, including one white variety; *C. Dowiana aurea*, *Dendrobium formosum* giganteum, and other showy species and hybrids, one of the best of the *Cypripediums* being *C. × Baron Schroder*, with a fine white dorsal sepal beautifully marked with purple.

Captain G. L. HOLFORD, Westonbirt (gr., Mr. Alexander), received a Silver Flora Medal for a very select group containing finely-coloured *Cattleya × Mrs. J. W. Whitely*, with fifteen flowers; *C. × Mantini nobilior*, sixteen blooms; some good forms of *C. labiata* and *C. aurea*; *C. × Fernand Denis*; *Lælio-Cattleya × Sunray*, with eighteen orange-scarlet and crimson flowers on one spike; two *Vanda cœrulea*, *Odontoglossum × crispo-Harryanum*, *Oncidium Forbesii*, *Zygo-Colax × Wiganianus superbus*, *Cypripedium × Euryale Cleverly's* var., very handsome; *C. × Memoria Moensii*, *C. × Titius superbus*, *C. × triumphans*, *C. × Schroderae candidulum*, the fine *C. × Niobe magnificum*, *C. × Chas. Richman*, *C. × Sir Redvers Buller*, and several pretty unnamed hybrids. A neat-flowered cross between *Cattleya Luddemanniana* and *Lælia glauca* named *Lælio-Cattleya × Milton*, with rosy-lilac flowers much like *C. Luddemanniana*, but with thicker texture, and the fragrance of *L. glauca*, was also shown for the first time.

JEREMIAH COLMAN, Esq., Gatton Park (gr., Mr. W. P. Bound), was awarded a Silver-gilt Flora Medal for a large and well-arranged group of finely-flowered Orchids, set up with *Asparagus Sprengeri*. In it was observed a fine selection of richly coloured forms of *Cattleya labiata*, including three plants of the variety Master J. Colman, one of the largest and best of coloured labiata; besides these there were *C. l. Imperator*, with a very finely-coloured lip; *C. l. venosa*, lighter in colour and with a purple veining; and *C. l. cœrulea*. Other plants noted were *Masdevallia Davisii*, with ten yellow flowers; *M. cucullata*, nearly black; *Lycaste Skinneri alba*, a fine set of varieties of *Lælia pumila*, *Odontoglossum madrense*, *O. mulus*, *O. Pescatorei*, *Cattleya Bowringiana lilacina*, *C. aurea*, &c.

J. BRADSHAW, Esq., The Grange, Southgate (gr., Mr. G. G. Whitelegge), secured a Silver-gilt Flora Medal for

a good group rich in forms of *Cattleya labiata*, the best white-petalled forms being C. I. G. G. Whitelegge and C. I. Penelope, and the largest coloured one C. I. Her Ladyship. The back of the group was tastefully arranged with *Oncidium varicosum*, O. Forbesii, and similar species, among which the most remarkable were the clear yellow O. Forbesii Bradshawiae, and the finely-coloured C. Mantinii superba. Other good plants noted were a fine *Lycaste hybrida* with five flowers, *Cattleya Loddigesii* alba, C. x Mantinii, *Laelio-Cattleya x luminosa*, L. C. x Ingrami, and the magnificent L. C. x Haroldiana John Bradshaw (see "Awards").

J. GURNEY FOWLER, Esq., Glebelands, South Woodford (gr., Mr. Davis), was awarded a Silver Banksian Medal for a floral arrangement of five splendid drooping spikes of *Arachnanthe Lowii*, arranged to hang over *Asparagus Sprengeri*. The spikes, which well displayed the yellow basal flowers, so dissimilar from the remainder of the racemes, were taken from one plant.

Sir TREVOR LAWRENCE, Bart., Burford, sent a fine pan of the singular *Dendrobium amplum* with many of its large chocolate-purple-lipped flowers; *Cattleya x Ella*, C. x Mrs. Endicott, L. C. x *Gottoliana regalis* (see "Awards"), and a singular and probably new *Gomosa*.

Messrs. JAS. VEITCH & SONS, Chelsea, were awarded a Silver gilt Flora Medal for a splendid group of *Cattleya labiata* and hybrid Orchids, the former being represented by about fifty finely-coloured, large-flowered specimens. Among the hybrids were *Laelio-Cattleya x blanchleyensis*, L. C. x Decia, L. C. x Lady Rothschild, L. C. x Bryan, L. C. x Nysa, two fine *Laelia Digbyano-purpurata*, *Cattleya x Chloe*, C. x Mantinii, C. x Bactia, C. x Hermes, *Sophro-Cattleya x eximia*, and others. The finest of the *Cypripediums* was C. x Little Gem (*Harrisianum superbum* x Baron Schröder), the dorsal sepal of which is handsomely tinted with rose purple, the same hue suffusing the other parts of the flower more slightly.

Messrs. CHARLESWORTH & Co., Heaton, Bradford, received a Silver-gilt Flora Medal for a fine group, chiefly of showy hybrid Orchids. Among them were handsome forms of *Laelio-Cattleya x luminosa*, L. C. x *Haroldiana*, and other *Laelio-Cattleyas*; *Cattleya x Iris*, one of which had gold-coloured sepals and petals; C. x Fernand Denis, C. x Lottie, C. x Mrs. J. W. Whiteley, C. x Nestor, *Cypripedium x Hitchensia*, and other good *Cypripediums*; *Laelia x Digbyano-purpurata* White Queen, a pretty white form with a slight lilac tint on the fringed labellum. Among the singular and rare species were *Cycnoches maculatum*, with its racemose sets of singular white flowers blotched with dark purple; *Brassia Lawrenceana longissima*, with many spikes of slender orange-and-brown flowers; two distinct forms of *Odontoglossum tripudians*, &c.

Messrs. SANDER & SONS, St. Albans, were awarded a Silver Flora Medal for a good group, having for a group-work elegant Palms and good varieties of *Cattleya labiata*. The leading specimens noted were *Angraecum sesquipedale*, a fine specimen with five flowers; *Cyper-orchis elegans*, with a fine inflorescence; *Zygo Colax x Veitchii*, *Cypripedium x triumphans*, C. x *Leeanum* varieties and other *Cypripediums*, *Laelio-Cattleya x luminosa*, L. C. x *Acis* (*tenebrosa* x *Mendelii*) and other *Laelio-Cattleyas*, &c.

Mr. J. CYPHER, Exotic Nurseries, Cheltenham, staged a very fine group in his usual effective manner, and for which a Silver Flora Medal was awarded. A fine selection of *Cypripediums*, including the yellow forms of C. insignis, were represented, C. insignis Sandere being unrivalled in point of beauty of its clear yellow flowers. Varieties of C. x *Leeanum* and other hybrids were in profusion; good *Cattleya labiata*, *Dendrobium Phalaenopsis*, and most of the other showy Orchids of the season.

H. S. GOODSON, Esq., Fairlawn, West Hill, Putney, was awarded a Silver Banksian Medal for a very pretty group of showy *Cattleyas*, *Oncidiums*, *Cypripediums*, &c. A pan of C. Spicerianum and a fine specimen of C. x *Morgania* were specially noteworthy.

Messrs. HUGH LOW & Co., Bush Hill Park, received a Silver Flora Medal for a group, in the centre of which were a number of well-flowered *Phalaenopsis* x, plants which are not shown so often as *Cattleyas*, &c. *Cattleyas* and other showy Orchids composed the rest of the group, one of the finest being *Cattleya Bowringiana*, Low's variety, good in colour and a large flower.

Mrs. T. FIELDEN, Grimston Park, Tadcaster (gr., Mr. H. J. Clayton), showed a fine plant of *Cattleya labiata* Fieldenii with many large richly-coloured flowers.

H. J. ELVES, Esq., F.R.S., Colesborne Park, Cheltenham, showed a fine specimen of *Arundina chinensis*

with many Bamboo-like growths, bearing at the tops pretty lilac flowers, with reddish-rose labellums. Flowers of A. bambuseifolia were sent for comparison. Also a spike of *Calanthe* x (*veratrifolia* x *Stevensii*), a singular hybrid between the evergreen and the deciduous section, and with white flowers apparently intermediate. The plant was said to resemble C. veratrifolia in habit. Mr. Elves also showed fine spikes of *Habenaria carnea*, taken from the plant which had previously secured a Medal, and which had eight spikes this year.

G. F. MOORE, Esq., Chardwar, Bourton-on-the-Water, showed *Cypripedium insignis montanum magnificum* and The Queen, both good large flowers. Also his remarkable *Phaio-Cymbidium x chardwarensis* (see Awards).

Messrs. B. S. WILLIAMS & SONS, Holloway, staged a group of *Cypripediums* and other Orchids and foliage plants.

Mr. H. A. TRACY, Twickenham, showed *Cattleya labiata* H. Rider Haggard, a fine richly-coloured flower.

M. A. A. PEETERS, Brussels, showed *Cattleya x Portia*, Peeters variety, in which the flowers were nearly as large as C. labiata, C. x *Fabia* Peetersi, very fine in colour, and two other hybrids. See Awards.

Awards.

FIRST-CLASS CERTIFICATES.

Laelio-Cattleya x Gottoliana regalis, from Sir TREVOR LAWRENCE, Bart. (gr., Mr. W. H. White). By far the finest and richest coloured form yet shown, sepals and petals purplish-rose; lip, dark claret-crimson.

Laelio-Cattleya x Haroldiana John Bradshaw (L. tenebrosa x C. x Hardiana), from J. BRADSHAW, Esq., The Grange, Southgate (gr., Mr. Whitelegge). A grand hybrid with finely formed flowers; sepals, Indian-yellow slightly tinged rose; petals broad, rose-purple, the yellow ground colour showing a beautiful veining over the whole surface; lip dark purplish-ruby-crimson, with gold veining at the base.

Phaio-Cymbidium x chardwarensis (*Phaio grandifolius* x *Cymbidium giganteum*), from G. F. MOORE, Esq., Chardwar, Bourton-on-the-Water. This singular hybrid, about the parentage of which there is no doubt in the mind of the raiser, resembles a strong-growing *Phaio*, but with a decided inclination to elongate the pseudobulbs. The stout spikes were over a yard in length, and furnished with heads of flowers larger than those of *Phaio Wallichii*; sepals and petals clear yellow, tinged with copper colour; lip, large, crimped at the edge, reddish-brown with yellow veining. A fine and distinct hybrid.

AWARD OF MERIT.

Cattleya x Ganttertiana (*Leopoldii* x *Schroderae*), from Sir HENRY SCHRODER, Bart. (gr., Mr. H. Ballantine). A delicately tinted hybrid with cream-white flowers, slightly tinged with rose, and pink front lobe to the lip.

Cattleya x Fabia, *Mary de Wavrin* (*Labiata alba* x *Dowiana aurea*), from M. A. A. PEETERS, Brussels. Sepals and petals nearly white, lip light rose with gold veining at the base.

Cattleya x F. W. Wigan, *Peeters var.* (*Schilleriana* x *Dowiana aurea*), from M. A. A. PEETERS. Sepals and petals rose coloured; lip broad and finely displayed, marked with purplish rose in front and tinged with orange and reddish-brown in the centre.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (Chairman); and Messrs. Jas. Cheal, Geo. Woodward, W. Bates, S. Mortimer, Alex. Dean, H. Eslings, George Keli, H. J. Wright, G. T. Miles, C. G. A. Nix, J. Jaques, Geo. Reynolds, F. Q. Lane, J. Willard, G. Norman, G. Wythes, and A. H. Pearson.

Some roots of *Celeriac* were shown by S. HEILBUT, Esq., The Lodge, Holyport, near Maidenhead (gr., Mr. Chamberlain) (Cultural Commendation).

Two large lemon-shaped Marrows with deep olive-green exterior were shown by Mr. J. FRITCHARD, Westgate Street, Gloucester. They were of singular appearance, but we do not know if they possess any superior value for kitchen purposes.

Mrs. CUTLER, Tulse Hill, S.W., showed a few good Apples as an instance of Apple cultivation within 4 miles of Charing Cross.

Mr. J. AMBROSE again exhibited very large-berried bunches of the new black Grape, Melton Constable, of firm texture and bold appearance.

Lecture on Pruning Roses.

A lecture on "Pruning Roses," by M. Vivian Morel, was read by Rev. W. WILKS, Secretary. The Lecturer gave instruction for pruning most types of Roses

according to the system of training, whether dwarf, standards, cordons, weeping, or for arbours or walls. The details were especially those referring to the French climate, and, as Mr. Geo. Bunyard pointed out it was assumed that the Roses to be treated were growing upon their own roots.

CROYDON AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT.

OCTOBER 20.—At their rooms, Sunflower Temperance Hotel, George Street, the members on Tuesday last, Mr. W. J. Simpson in the chair, listened to an excellent discourse on "A Year's Work in the Vinery," by Mr. W. Taylor, gardener, Tewkesbury Lodge, Forest Hill. To illustrate his paper Mr. Taylor brought a collection of Grapes, including those which he considered to be the best twelve varieties grown. A discussion by some of the members followed, and to questions asked Mr. Taylor replied fully.

The next meeting of the Society will be held on Friday, November 6, when Mr. R. B. Leech, gardener, Wood Hall, Dulwich, will give a lecture and demonstration on "Bottling Fruit," and to this lecture the lady friends of members are invited.

EPPING FOREST FUNGUS FORAY

OCTOBER 24.—The annual foray of the Essex Field Club took place in Epping Forest on the foregoing date, when the weather was rather favourable, considering the season. Unfortunately the time selected was quite a month too late, and the notices of the meeting were only issued at the beginning of the week, hence the attendance was the smallest recorded of any previous foray.

The number of species collected during the day did not exceed seventy, yet these included some interesting species. *Pleurotus columbinus* (which may be a form of *Pleurotus ostreatus*), *Clitopilus cancrinus*, *Hypholoma ekeodes*, and *Russula densifolia*, were new to the Forest flora, and amongst rare species there were *Russula lactea*, *Pholiota adiposa*, *Tricholoma carneum*, and *Hygrophorus turundus*, with a small specimen of *Amanita spissa*, and one of *Clitocybe catinus*.

After tea a paper was read by Dr. M. C. Cooke on "Edible Fungi," in which he urged that, instead of attempting to discriminate a large number, about six or seven good and common species should be selected characterised by popular names, and the members invited to inspect and learn to know them thoroughly so that it would increase their interest to search for a limited number of species which they would distinguish readily, instead of scrambling about all day in order to ascertain who could fill the biggest basket with miscellaneous fungi.

Afterwards, Mr. Geo. Massee read a very instructive and interesting paper on "Some Points in the Life-history of a Parasitic Fungus," illustrated by a series of diagrams. The parasite selected was *Fusarium solani*, its progenitors and successors, which aroused considerable interest in a small but appreciative audience. During the evening it was strongly urged that in so many cases these forays are arranged to take place at too late a period of the year, contrary to the advice of those who are supposed to possess the greatest knowledge and experience. A month earlier two or three individuals in the Forest for two hours were able to find and record no fewer than 150 species, and amongst them one species which had never before been recognised in this country. This was the period at which the annual foray should have been fixed. M. C. C.

NATIONAL CHRYSANTHEMUM.

OCTOBER 26.—A goodly number of novelties were submitted for the consideration of the Floral Committee on this occasion; the large glass roof to the small Essex Hall in Essex Street, Strand, admitted of the flowers being seen to the best advantage, though the day was dull.

First-class Certificates of Merit were awarded to:—

Incurved Mrs. J. P. Bryce, a large white broad-petalled variety, in the way of Duchess of Fife, that received a unanimous vote.—From Mr. W. J. GODFREY, Nurseryman, Exmouth.

Japanese Maude du Cros, pale yellow, with sulphur-white reverse, having long fairly broad curling florets; a full deep flower. Six blooms were shown.—From Mr. T. BULLIMORE, The Gardens, Canons Pk., Edgware.

Incurved Miss E. Holding, having a pale rosy-purple base with a silvery reverse, but little of the basal colour being seen; good petal and shape. A very promising variety.—From Mr. W. SEWARD, The Firs, Hanwell.

Mr. GODFREY also had some richly-coloured blooms of Exmouth Rival which was commended; he also had Col. Weatherall, a deep bright golden-yellow broad-petalled Japanese of considerable promise.

Incurved Devonshire Hero, a bright deep yellow incurved which the Committee wished to see again, and

WILFRED H. GODFREY, bright orange-chestnut with amber reverse.

From Mr. THOMAS MUDD, Thornewood Gardens, Northampton, came Thornewood, a promising Jap. pink, suffused with delicate lilac, having broad petals incurving at the points, which the Committee wished to see again.

The usual monthly meeting of the Executive Committee was held at Carr's Restaurant, Strand, on the above date, Mr. Thomas Bevan in the Chair. An interim financial statement was submitted, showing a balance at the bank of £129 15s. 11d. Mr. C. Harman Payne, Foreign Corresponding Secretary, announced the publication of the new official *Catalogue*, and said there was a good demand for copies; also that a deputation from the National Chrysanthemum Society would visit the Chrysanthemum exhibition at Lille early next month. He also stated that the National Chrysanthemum Society of France had issued an illustrated chart, setting forth the diseases to which the Chrysanthemum is subject, and also the insects which infest the plants; a copy of this had been received, and he suggested that a copy of it be mounted and exhibited at the Crystal Palace on the occasion of the November show. It was also agreed that the various Foreign Medals, &c., which had been awarded to the Society from time to time be exhibited with it. Stewards were appointed for the coming exhibition at the Crystal Palace; and it was announced that the Floral Committee would meet at 1 P.M., the Classification Committee at 1.30, and the Arbitration Committee in the evening, to consider any protests which might be made against the awards of the judges. Mr. Payne produced the Diploma granted two years ago by the French National Chrysanthemum Society, on the occasion of an exhibit of blooms being sent by the Society to France, and it was resolved that it be framed and exhibited on all suitable occasion. A number of new members were elected.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT.

ANNUAL DINNER.

OCTOBER 27.—The seventeenth Annual Dinner of this Benefit Society was held at the Holborn Restaurant on Tuesday evening last. Mr. Peter Barr, V.M.H., presided, and there was a company of 111 present.

When the Royal toasts had been honoured, the Chairman proposed the toast of the evening, and at once congratulated the members of the Society upon the good management that had placed them in the satisfactory financial position the Society now occupied. The present number of benefit members, said Mr. Barr, was 1,040. Think what work will be necessary when the number has become ten thousand! He could imagine the Society possessing in the future a building in the City and a staff of clerks. But there has to be much done before that happens, and so Mr. Barr, ever practical, had been very carefully through the rules, had "heckled" the good-humoured secretary, and had come to the conclusion that some of them were a little obscure. For instance, he as a seedsman-gardener was entitled to become a benefit member, but he had never known this was the case. In order to obtain recruits he suggested to the society that circulars should be drawn up appealing separately to seedsmen and their employés, nurserymen and their young men, young gardeners in bothies, and the gardeners employed in the public parks and gardens. Mr. Barr had also analysed the list of benefit members, and found them to be living as follows:—948 in England, 18 in Wales, 17 in Scotland, 12 in Ireland, 4 in America, 1 in South Africa, and one in Germany. He thought that they should turn greater attention to Scotland. He was aware of the strong national feeling in that country; Scotsmen like to possess things themselves, but if the missionary work of their Society in Scotland should result eventually in the formation of a separate but similar society in Scotland, they would have done much good. He had found no benefit society exclusively for gardeners in America, Australia, or South Africa. Mr. Barr, like all after-dinner speakers in these days, referred to the lady gardeners, and suggested that the Society had better make provision for accepting them as members, or they would probably form a society for themselves.

The toast was responded to by Mr. Jas. Hudson, V.M.H., who has been treasurer to the Society so long, and whom all were very pleased to meet again after his recent illness. He at once traversed the suggestion made by the Chairman that Scotsmen may form a similar society for themselves, and said they were too "canny" to do that; they would be more likely to join a society that possesses funds; and Mr. Hudson removed all ground for doubt by declaring that they are joining in increasing numbers. The good ship "United" was launched in 1865. It had now a reserve of £22,000. Its officers were attending to their work in navigating the ship, and it was making good progress—a fact largely due to help afforded by the Press.

The next toast, "The Honorary and Life Members," was proposed by Mr. A. J. Brown (School of Hand-

crafts), Chertsey, who said he had joined the Society in 1871, and was very pleased that he had done so. He appealed to members to attend the annual meetings, and show the interest in the Society they all felt. Mr. Brown referred especially to the excellent Convalescent Fund inaugurated by Mr. N. N. Sherwood. Mr. Thomas Cox replied to the toast.

"The Chairman" was proposed by Mr. C. H. Curtis, who eulogised the services Mr. Barr had rendered to horticulture, spoke of his wonderful travels during the past five years, and of his unabated spirit now. In reply Mr. Barr said that he hoped to visit Khartoum, Egypt, and Greece, and every important garden in Britain! This was a remarkable speech for a man approaching eighty years of age.

Mr. W. Woods proposed the toast of "The Visitors," and Mr. T. Bevan responded in a very sympathetic speech. His own travels upon the Continent had made him wish that he could always be "a visitor."

The toast of "The Press," proposed by Mr. Thomas Winter, was responded to by Mr. R. Hooper Pearson, who said that the principle of self-help advocated by the Society had its justification in the fact that no member of the community had the right to become dependent upon others, unless he had failed after doing his utmost to provide for himself.

It was announced that Messrs. Barr & Sons had become life members, Mr. Peter Barr had given 5 guineas to the Convalescent Fund, and that Mr. Turner (Chiswick) had become a honorary member.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period Oct. 18 to Oct. 24, 1903. Height above sea-level 24 feet.

OCTOBER 18 TO OCTOBER 24.		DIRECTION OF WIND.		TEMPERATURE OF THE AIR.				TEMPERA- TURE OF THE SOIL at 9 A.M.			RAINFALL.	LOWEST TEMPERATURE ON GRASS.	
				At 9 A.M.		DAY.		NIGHT.					
				Dry Bulb.	Wet Bulb.	Highest.	Lowest.	Night.	At 1-foot deep.	At 2-feet deep.			At 4-feet deep.
		deg.	deg.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.	
SUN. 18	W.N.W.	49°	46°	52°	43°	50°	41°	52°	55°	0°	56°	33°	
MON. 19	S.E.	50°	49°	58°	45°	50°	44°	52°	53°	5°	58°	40°	
TUES. 20	S.S.E.	53°	51°	55°	50°	50°	43°	53°	53°	5°	59°	46°	
WED. 21	W.N.W.	54°	52°	55°	50°	50°	25°	53°	54°	7°	55°	42°	
THU. 22	S.S.W.	51°	50°	55°	42°	50°	23°	52°	53°	5°	55°	34°	
FRI. 23	W.S.W.	47°	45°	52°	41°	50°	...	51°	54°	2°	55°	33°	
SAT. 24	S.E.	43°	42°	45°	35°	0°	17°	53°	53°	7°	55°	27°	
Tot													
MEANS	...	50°	48°	55°	44°	0°	89°	52°	2°	54°	5°	37°	

Remarks.—There is no change, simply a continuation of the dull, wet weather we have been recording for several weeks past.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Oct. 24, is furnished from the Meteorological Office:—

"The weather during this week was again dull and rainy throughout Great Britain, and rainy, but less dull, over Ireland. Thunder and lightning were experienced in several parts of England on Thursday."

"The temperature continued above the mean, the excess varying from 1 or 2 over the country as a whole, to 3° in England, S.W. The highest of the maxima occurred about the middle of the week, and ranged from 61° in England, S. and Ireland, S., and 60° or 59° in most other districts, to 57° in Scotland, N. The lowest of the minima, registered as a rule at the end of the period, were below 35° generally, and as low as 31° and 30° respectively in the Midland Counties and England, S.; in the Channel Islands, however, the thermometer fell no lower than 43°."

"The rainfall was again more than the mean in most districts, but was a little less in England, S.E. and the Midland Counties, and just equal to the normal in Scotland, E. and Ireland, S. In England, S. and Scotland, W. the excess was large, and rather large in the Channel Islands."

"The bright sunshine was again very deficient, except in Ireland. The percentage of the possible duration ranged from 32 in Ireland, S. 30 in Ireland, N., and 27 in the Channel Islands, to 17 in Scotland, N., and to 9 in England, N.E. and the Midland Counties."

THE WEATHER IN WEST HERTS.

NO PREVIOUS RECORD OF SUCH CONTINUOUS RAIN. The present virtually unbroken spell of warm weather has now lasted nearly six weeks. During that time the exposed thermometer has on no night regis-

tered more than 5° of frost. Owing to the scanty record of sunshine and continued rain, the temperature of the ground both at 1 and 2 feet deep is now only about seasonable. Rain has fallen on all but five of the last thirty-five days. I have searched my records, but can find no wet period as long, with as few rainless days, during the eighteen years over which they extend. During the last thirty-three days there have been only four days on which no rain fell, which is still more exceptional. The total fall for the thirty-five days has been 6½ inches—equivalent to a watering of 31½ gallons on each square yard of surface in my garden. Of that amount 20 gallons have come through the 2½ feet of soil in the percolation-gauge covered with short grass, and 28 gallons through the bare soil percolation-gauge. Between 9 and 10 P.M. on the 25th, during a thunderstorm, about half an inch of rain fell in half an hour. For five minutes during that period it descended at the rate of 2½ inches an hour, and for 15 minutes at the rate of 1½ inch an hour, showing how exceptionally heavy this downpour was. The last nine days have been very gloomy, the average record of sunshine amounting to scarcely more than an hour a day. The winds have been at times high during the past week, but as a rule they were only of moderate strength. The mean amount of moisture in the air at 3 P.M. was 10 per cent. in excess of the average. E. M., Berkhamsted, October 27, 1903.

MARKETS.

COVENT GARDEN, October 29.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS, &c.: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Adiantums, doz.	4-8	0	Ferns in var., doz.	4-30	0
Aralias, per doz.	4-8	0	Ficus elastica, doz.	9	0-21
Arbor Vitæ, doz.	9-18	0	Lilium longi-		
Aspidistras, doz.	18	0-36	florum, per doz.	6	0-12
Asters, per doz.	3-4	0	— lanceolatum,		
Aucubas, per doz.	4-8	0	per dozen	6	0-12
Begonia, per doz.	8-10	0	Lycopodiums, p.		
— Gloire de Lorraine,			dozen	3	0-4
8-24	0		Marguerites, doz.	6	0-12
Chrysanthemum,			Orange trees, each	3	0-10
per dozen	3-30	0	Palms, var., each	3	0-30
Coleuses, per doz.	4-5	0	Pelargoniums,		
Crotons, per doz.	12	0-21	scarlet, dozen	6	0
Cyclamens, doz.	10	0-12	Primulas, per doz.	4	0
Cyperus, per doz.	4	0	Pteris tremula,		
Dracenas, variety,			dozen	4	0-8
dozen	12	0-48	— Winsted, doz.	4	0-8
Ericas, per dozen	10	0-12	— major, dozen	4	0-8
Euonymus, vars.,			Solanums, doz.	4	0-8
per dozen	4	0-6	Verbenas, doz.	4	0-6

CUT FLOWERS, &c.: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Bouvardias, per bunch	0-6	0-8	Lobelia cardinalis,		
Callas, per dozen	4-5	0	doz bunches	3	0-4
Carnations, per bunch	0-6	0-3	Marguerites, yellow, doz bunch	1	0-2
Chrysanthemums, doz. bunches	4-10	0	Michælas		
— specimen blooms, doz.	1-3	0	Daisies, doz. bunches	3	0-4
Coreopsis, dozen bunches	1-2	0	Mignonne, doz.	2	0-3
Dahlias, per doz. bunches	3-4	0	Mimosa (Acacia), per doz bunch	6	0-9
Eucharis, per doz.	1-2	0	Montbretias, per dozen bunches	4	0-6
Ferns, A-paragus, per bunch	1-2	0	Orchids: Cattleya, dozen blooms	6	0-12
— French, per doz bunches	0-4	0-6	— Odontoglossums, dozen blooms	1	0-2
— Maidenhair, doz. bunches	4-6	0	— Cypripedium		
Gaillardia, p. doz.	1-2	0	insigne, dz.	2	0-3
Gardenias, box	1-2	0	Pelargoniums, red, 12 bunch	4	0-6
Gypsophila, per bunch	0-3	0-4	Physalis, per doz. bunches	6	0-8
Heather, Scotch, per bunch	0-9	1-6	Rose — Mermel.		
Honesty, bunch	1	0	— per doz.	1	0-2
Lilac (French), per bunch	5-6	0	— red, 12 bunch	4	0-8
Liliums, longi-florum, per bunch	2-6	4-0	— white, bunch	0-6	2-0
— lanceolatum, per bunch	1-6	2-0	— pink, bunch	4-6	1-6
— auratum, per bunch	2-0	3-0	Saxat, per doz.		
Lily of the Valley, p. doz. bunch	6-8	0-8	— "red"	1-6	2-3
			Schizanthus, doz. bunch	3-4	0-4
			Stephanotis, doz.	1-6	3-0
			— alba, strong, per bunch	0-9	1-0
			— per dozen	0-2	0-3
			— white, doz. bunch	1-0	1-6
			— white, bunch	1-0	2-0

FRUIT: AVERAGE WHOLESALE PRICES.

s.d. s.d.	s.d. s.d.
Apples, home-grown, cookers, per bushel ... 3 0-8 0	Grapes, in barrel 12 0-18 0
per half bushel ... 2 0-5 0	— Gros Maroc, per lb. ... 0 8-1 0
barrel ... 14 0-23 0	— Muscats, A., per lb. ... 3 0-4 0
— American, in cases ... 7 0-10 6	— B., per lb. ... 0 6-1 0
— Dessert, half ... 3 0-5 0	— Canon Ball, A., per lb. ... 3 0-5 0
Bananas, bunch ... 7 0-12 0	— B., per lb. ... 1 6-2 6
— loose, dozen ... 1 0-1 6	Lemons, per case 15 0 —
Blackberries, per peck ... 2 6-3 0	Lyches, box ... 1 2 —
— per sieve ... 5 0 —	Melons, each ... 0 9-2 0
Chestnuts, bag ... 0 9-20 0	Oranges, per case ... 5 6-12 0
Cobnuts, per lb. ... 0 7-0 9	Pears, per case ... 5 0-16 0
Cranberries, case 12 0-13 6	— stewing, half ... 5 0-6 6
Figs, per dozen box ... 0 9-1 0	Pines, each ... 2 6-4 0
Grapes, Alicante, per lb. ... 0 6-1 0	Walnuts, Greenoble, bag ... 5 6-6 6
	— French, per bag ... 14 0-15 0

VEGETABLES: AVERAGE WHOLESALE PRICES.

s.d. s.d.	s.d. s.d.
Artichokes, Globe, per dozen ... 2 0 —	Lettuces, Cos, per score ... 0 6-1 0
— Jerusalem, p. sieve ... 1 6-2 0	Mushrooms, house, per lb. ... 0 4-0 8
Asparagus, spruce, bundle ... 0 10 —	Onions, per case ... 5 0-5 6
— Paris Green ... 5 6 —	— per bag ... 3 0-4 6
Beans, dwarf, lb. ... 0 4 —	— green, per dozen ... 2 0 —
— Scarlet Runners, p. bush ... 1 0-2 0	— picklers, per sieve ... 3 0-4 0
Beetroots, bushel ... 1 6-2 0	Parsley, per doz. bunches ... 1 0-1 6
Brussels Sprouts, per sieve ... 1 3-2 0	— sieve ... 0 8-1 0
Cabbages, tatty ... 2 0-4 0	Parsnips, per bag ... 2 6-3 0
Carrots, per doz. bunches ... 1 3-2 0	Potatoes, per ton ... 80 0-120 0
— per bag ... 2 6-4 0	Radishes, per dozen bunches ... 0 6-0 9
Cauliflowers, doz. ... 0 9-1 6	Salad, small, punnets, per doz. ... 1 3 —
Celery, doz. bun. ... 8 0-15 0	Spinach, p. bush ... 0 9-1 0
Cress, per dozen punnets ... 1 3 —	Tomatoes, Channel Islands, per lb. ... 0 4 —
Cucumbers, doz. ... 2 6-4 6	— Canary Deepes ... 4 0-4 6
Endive, per doz ... 1 0 —	— English, per 12 lb. ... 4 6-5 6
Garlic, per lb. ... 0 2-0 3	Turnips, per doz. bunches ... 1 6-2 0
Horseradish, foreign, p. bunch ... 1 3-1 6	— per bag ... 2 0-2 6
Leeks, per dozen bunches ... 1 0-1 6	Watercress, per dozen bunches ... 0 4-0 6
Lettuces, Cabbage, per dozen ... 0 4-0 6	

REMARKS.—There is general depression in the market. Grape fruit per case, 12s.; Mangoes, per doz., 3s. to 5s.; and Avocado Pears, do., 2s. to 4s.; Medlars, per sieve, 4s.; Persimmons, per box, 1s. 6d. to 2s.; Californian Plums, per case, 10s. to 12s.; Mandarin Oranges, per box of 25, 2s. 3d.; Cardoons fetch 2s. each; Falsify, per doz., 4s.; and Corn Cobs, per doz., 1s. The Californian Pears are Duchesse d'Angoulême, Doyenné du Comice, Glout Morceau, and Belle Magnifique. American Apples are arriving in fine condition.

POTATOS.

Home-grown, 80s. to 120s. per ton; foreign, 70s. to 90s. do.; Dunbars, 12s. to 13s. do. John Bath, 32 & 34, Wellington Street, Covent Garden.

CORN.

AVERAGE PRICES OF British Corn (per Imperial qr.), for the week ending October 21, 1903, and for the corresponding period of 1902, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

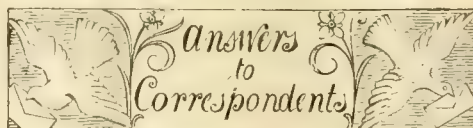
Description.	1902.	1903.	Difference.
	s. d.	s. d.	s. d.
Wheat	24 11	25 10	+ 0 11
Barley	26 4	23 7	- 2 9
Oats	17 0	15 8	- 1 4

FRUITS AND VEGETABLES.

GLASGOW, October 28.—The following are the averages of the prices during the past week:—Apples, Canadian, 1s. to 2s. per barrel; American, 1s. to 2s. 6d.; Plums, Victoria (Scotch), 3d. to 5d. per lb.; Lemons, 12s. 6d. to 18s. per box, and 18s. to 25s. per case; Grapes, English, 10d. to 1s. 6d. per lb.; do., Almeria, 8s. to 16s. per barrel; do., Guernsey, 4d. to 6d. per lb.; Pears, 6s. to 14s. per box; Tomatoes, 5d. to 7d. per lb.; Melons (yellow), 10s. to 14s. 6d. per box; do., bronze, 11s. to 16s. do.; Onions, Valencia, 4s. to 5s. per case; Mushrooms, 1s. 6d. per lb.; Cucumbers, 2s. to 3s. per dozen.

LIVERPOOL, October 28.—Wholesale Vegetable Market (North Hay).—The following are the average of the current prices during the past week—prices varying according to supply:—Potatoes, per cwt., Main Crop, 4s. 9d. to 5s. 3d.; British Queen, 3s. 6d. to 4s.; Up-to-Dat, 3s. 6s. to 4s.; Bruce, 3s. 9d. to 4s. 3d. Turnips, 6d. to 8d. per dozen bunches; Swedes, 1s. 6d. to 1s. 9d. per cwt.; Carrots, 6d. to 8d. per dozen bunches, and 4s. to 4s. 3d. per cwt.; Onions, foreign, 3s. to 3s. 6d. per bag; Parsley, 4d. to 6d. per dozen bunches; Cucumbers, 1s. to 2s. per dozen; Cauliflowers, 6d. to 1s. do.; Cabbages, 8d. to 1s. 6d. do.; Celery, 9d. to 1s. 6d. do. St. John's.—Potatoes: 10d. to 1s. per peck; Cucumbers, 3d. to 6d.

each; Filberts, 8d. per lb.; Grapes, English, 1s. 6d. to 2s. 6d. per lb.; do. foreign, 6d. to 8d. do.; Pines, foreign, 4s. to 6s. each; Mushrooms, 1s. per lb. Birkenhead.—Potatoes, 8d. to 1s. per peck; Cucumbers, 2d. to 4d. each; Grapes, English, 1s. to 3s. per lb.; do. foreign, 4d. to 8d. do.; Tomatoes, English, 6d. to 8d. do.; Mushrooms, French, 8d. to 1s. do.; Filberts, 8d. do. The prices of Apples at the market this week averaged: for Canadian, 1s. to 2s. 6d. per barrel; and for Americans, 1s. to 2s. 6d. do.



A MARKET NURSERY FOREMAN: *Pro bono publico*. A man who is well up in the growing of Cucumbers, Tomatoes, Chrysanthemums and Richardias under glass for market, and who is competent to supervise and make the most of the labour allowed, viz., six men, should be paid 30s. per week, in addition to a cottage rent free and coal, and a commission of ten per cent. on profits. This commission will serve as an additional inducement to work the nursery as profitably and economically as possible, to the mutual advantage of both master and man. To grant a percentage on the annual turnover is both unusual and undesirable, the profits being the proper basis on which to allow a percentage. In arriving at the above-mentioned conclusions, we assume, as a matter of course, the foreman to have the entire management of *Pro bono publico's* market nursery. Perhaps we may be excused for saying that glasshouses 100 feet by 25 feet, provided with four rows of (we assume 4-inch) hot-water-pipes, while suitable enough for growing Tomatoes, Chrysanthemums, Richardia ethiopica, Vines or Peaches, are quite unsuitable for the cultivation of Cucumbers, being at least 10 feet too wide; houses from 12 to 15 feet in width are invariably erected for the production of Cucumbers.

BOUGAINVILLEA GLABRA IN FLOWER: *J. Fraser Smith*. It is a very remarkable occurrence to have this plant flowering out-of-doors at this date, more especially so far North as Banffshire. The flowers are of fair size and colour.

CHRYSANTHEMUM LEAVES BROWNED: *Clifton*. No fungus. The injury was caused by an overdose of artificial manure, or over fumigation, or spraying with insecticide.

EVERGREEN FLOWERING PLANTS: *Isabel H. S.* The loam of the border being light and sandy, it would grow all kinds of hardy Rhododendrons of ponticum, catawbiense, and caucasicum species and hybrids; Andromedas, Arbutus, Berberis Darwini, B. dulcis, Broom Yellow, White, Portugal and Spanish; Cotoneasters, Escallonias, Eurya latifolia, Kalmias, Laurustinus, Mahonia Aquifolium, and Osmanthus.

GAS-LIME AND THE ROOTS OF FRUIT-TREES: *E. Reed*. In cases where gas-lime is used as a remedy for clubbing in Cabbages, &c., it would be safer not to place any on the ground in which fruit-trees of any kind are planted; or if a small quantity be applied it should be left for some months on the surface before turning it in. This applies to all land under crop as well unless it is trenched.

GRAPES DISEASED: *F. J.* Affected with the "Spot" fungus, often alluded to in these columns. The disease can only be stamped out by gathering all affected fruits and at once burning them. Scrape off the surface soil and bury it deeply at a distance from the vineyard. Afford the usual winter dressing and apply the Bordeaux-mixture soon after the vines break, and once in three weeks afterwards till July.

HIMALAYAN RHODODENDRONS WITH LARGE TRUSSSES: *A. J. R. Wightii*,* *R. Shepherdii*,* *R. niveum fulvum*, *R. Maddeni*,* *R. grande*,* *R. Hookeri*, *R. Dalhousiae*.* Those with an asterisk have the larger flowers. In the warmer counties these species may be grown in sheltered situations out-of-doors; but, the growth being made early in the spring, it is advisable to retard this by covering the plants with mats, canvas, &c., or to cover it securely at night after it is made. Most of the species

will succeed in peat alone, or mixed with turfy light loam. A considerable amount of sand should be mixed with the soil. In the colder parts of the country these species should be grown under glass.

HORSE-CHESTNUT: *J. H.* Primarily the gray patches are due to a lichen, but the conspicuous white marginal band is the result of innumerable fine webs secreted by a species of mite (*Tetranychus*), allied to the so-called red-spider. The mites evidently feed upon the lichen or the green protococcus which accompanies it. The caustic soda-wash frequently recommended in the *Gardeners' Chronicle* would kill both the lichen and the mites, but it should be well brushed into the grey patches.

OMBU: *Correspondent*. We believe this to be, as you suggest, *Phytolacca dioica*.

PELAGONIUMS: *W. J. B.* Your flowers are semi-double, with linear petals of varying hues. They arrived in such a condition that we can only say they look as if they might have been pretty and distinct.

NAMES OF FRUITS: *Hugh Woodthorpe*. Apple, Harvey's Reinette.—*H. L. E. G.* 1, Wellington; 2, Cockle Pippin; 3, Radford Beauty; 4, Stirling Castle; Pear, Nouvelle Poiteau.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*W. R. Fryer*. *Origanum Dictamnus*.—*C. E. J.* *Bomarea* (? sp.).—*V. V. H.* *Oncidium barbatum*, one of the most widely distributed and variable of the Brazilian Oncids, especially in the form of the lip, that of your specimen being the smallest, and distinguished by Lindley as *O. barbatum verum*.—*W. T. G.* 1, a fine variety of *Cattleya Dowiana aurea*; 2, *Cattleya labiata*.—*C. S.*, *Hemel*. *Sarcanthus paniculatus*.—*E. T.*, *Manchester*. *Epidendrum osmanthum*.—*J. M.* 1, *Polypodium pustulatum*; 2, *Asplenium lucidum*; 3, *Asplenium trichomanes*; 4, *Pteris crenata*; 5, *Doodia caudata*; 6, *Nipholobolus Lingua*.—*V. M.* 1, *Epidendrum virens*; 2, *Epidendrum inversum*; 3, *Epidendrum cochleatum*.—*E. P. C.* *Nerine undulata*, often called *Nerine crispa* in gardens.—*Cor.* 1, *Crinum Moorei*; 2, *Hæmanthus Katherinæ*; 3, *Nerine Fothergillii*.—*R. T. H.*, *Woburn*. 1, *Choisya ternata*; 2, *Gaultheria Shallon*; 3, *Rhus Cotinus*; 4, *Lycocystia formosa*; 5, *Magnolia acuminata*; 6, *Deutzia crenata flore-pleno*.—*G. H.* *Tropæolum Lobbianum* variety.—*W. M.* *Juniperus communis*.—*A. B. C.* 1, *Rhus Cotinus*; 2, *Ginkgo biloba*, Maidenhair tree; 3, *Weigela*; 4, *Spiræa*. We cannot tell from the leaves only.—*T. H. O. P.* 1, *Lonicera Ledebouri*; 2, *Escallonia rubra*; 3, apparently the white form of *Escallonia rubra*; 4, perhaps *Magnolia Lennei*; 5, *Hypericum Androsæmum*.

PERNETTYA MUCRONATA: *W. B. C.* This plant is a native of Magellan, and if found in Yorkshire in a semi-wild pasture it has probably grown from seeds voided by birds, which have been obtained from some garden in the neighbourhood. The plant bears seeds (berries) abundantly. There are several varieties of the plant, distinguished by fruits of various colours. It belongs, like *Andromeda*, as you suggest, to the Natural Order Ericaceæ.

THE GOAT MOTH: *W. R.* It is stated that the caterpillar of this splendid moth does not bore into sound trees, and that therefore it is not so injurious as it seems. We should be glad to think so, but it would be contrary to our experience.

TOMATO: *M. L. P.* A Tomato was figured in our columns on April 26, 1902, weighing 1 lb. 10 oz., so that your specimen is a long way behind. There is no advantage in such huge specimens.

VIOLET: *S.* We cannot find fungus or insect. Have they been "scalded"?

COMMUNICATIONS RECEIVED.—*B. Campbell*—*J. R. J.*—*Jas. Godseff*—*L. L. P. W.*—*Dr. Plowright*—*E. K.*—*E. D. A. B.*—*J. H. Goodacre*—*C. E. I.*—*R. B.*—*B. & Co.*—*T. B. H. E.*—*W. H. E.*—*L. J. W.*—*M. F.*—*G. M.*—*Hulsewood*—*J. E.*—*J. Hughes*—*E. H.*—*A. M.*—*A. Hope*—*A. D. W.*—*H. V. A. H.*—*J. O. B.*—*W. F. B.*—*E. C.*—*C. H. P. J. S. C.*—*L. S. W.*—*P. C. H. J.*—*H. J. E.*—*W. C. & Son*—*E. L.*



THE Gardeners' Chronicle

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SCIENCE AND HORTICULTURE.

UP to a comparatively recent date the scientific man and the practical horticulturist stood far apart, the former, in his capacity as botanist, confining himself rigorously to the study of normal plants in the way of classification by systematic determination of their characters, while the practical horticulturist depended for successful culture largely on tradition and rule - of - thumb dogmas, plus his own personal experience. Gradually, however, the purview of both widened—the botanist began to perceive that much was to be learnt from abnormal types as regards the underlying laws which determined their appearance, the researches of the biologist resulted in discoveries which were of obvious value to the cultivator, while the chemist demonstrated that the old-fashioned system of manuring could be revolutionised by the study of the relations existing between the constituents of the plants themselves and those existing in, or capable of being supplied to, the soil in which they grew. Hence, in course of time the scientist and the cultivator joined hands, and the latter, instead of regarding the former as a mere theorist, a poker and pryer into secrets too recondite to be of practical use, came to recognise his debt and to profit by the know-

ledge thus gained. In Great Britain, however, the benefit of this association, speaking generally, does not seem to have been so rapidly recognised as it is abroad; and even now, to those who can study foreign literature for themselves, it appears that systematic investigation of newly-presented phenomena is not followed up so seriously by Britons as it is elsewhere. It is true that we have our noble scientific societies, such as the Royal and the Linnean, as centres of scientific research and record; but neither of these constitutes that joint centre of research and practical application which is a vital necessity; and it is precisely here that the Royal Horticultural Society should constitute the vital link.

We hear, for instance, in a more or less desultory way in the Horticultural Press and the Society's invaluable *Journal* (largely by means of abstracts from foreign sources), of experiments made here, there, and yonder in connection with the effect of electricity and electrical lighting on plant-growth, the effect of etherisation as a stimulus, the effect of frigid conditions as a retarding influence, and the effects of variously-coloured glass in both capacities. In another direction we hear a good deal of symbiotic influence, both of bacteria in the soil and even between plants themselves; and in yet another we have the eternal fight against fungoid diseases and vermin, which a deeper knowledge of the life-histories of the plant-foes would largely enable us to modify or even terminate. The Scientific Committee of the Royal Horticultural Society does all it can do to aid the Fellows in these respects; various specialists who constitute it study the material put before them as best they may, and report accordingly; but this is not enough. What is really wanted is a regular laboratory [under a scientific director] and the necessary appurtenances in which all these important questions could be solved by actual and continued experiment on systematic lines, the records of which should appear from time to time in the *Journal* of the Society. All this, we are fully aware, means money; but experience teaches us that whenever a really practical scheme for such research is formulated and recognised, endowment follows; and it is therefore devoutly to be hoped that the Society may avail itself of the opportunity now afforded by the Wisley gift in the direction indicated. The Jodrell Laboratory at Kew might possibly serve as a suggestive model. With some such installation the Scientific Committee would have a backbone as it were, and would not be confined, as it now is, to the necessarily brief investigations made by its members, who, though fully competent to advise lines of research, have naturally other business to occupy them, and cannot possibly devote that long-continued observation which is generally essential to research of the kind indicated.

At present, of course, owing to the concurrence of the Wisley gift with the erection of the new Hall, the Royal Horticultural Society's Council has its hands very full; but it is devoutly to be hoped that when the Wisley plans are under consideration, this important question of practical experiments in connection with the burning questions of the day in horticultural circles will occupy the forefront of the agenda. *Chas. T. Drury, F.L.S., V.M.H.*

CHRYSANTHEMUMS.

MALADIES ET PARASITES DU CHRYSANTHÈME, PAR J. CHIFFLOT.—This handy little treatise by Dr. J. Chiffot, of Lyons, has recently been published under the auspices of the French National Chrysanthemum Society, and is published by the Librairie Horticole, 84bis, rue de Grenelle, Paris. Although merely a small paper-covered pamphlet of about fifty-six pages, it is a useful addition to the literature of the Chrysanthemum. Illustrations are given of the various insects and diseases that attack the Chrysanthemum, and remedies suggested for the help of the grower.

Issued simultaneously with the book is a large coloured plate to which we wish to draw particular attention. It measures 21½ inches by 14, and if mounted and hung up in a handy place would help many a grower in the time of trouble and doubt. Infected leaves and insect pests enlarged and in natural colour are shown, the names given, and the remedies briefly supplied.

The following is what appears on this sheet:—*Phytophthora geniculata*, *Grapholita minutana*, *Aphrophora alni*, *Oidium chrysanthemi*, *Puccinia chrysanthemi*, with teliospore and uredospore; *Calocoris chenopodii*, *Cleonus marmoratus*, *Septoria chrysanthemi*, *Aphelenchus aleisistus*, and *Heterodera radiculicola*.

Dr. Chiffot is a well-known authority on such matters, and has several times read papers on these troubles at the annual gatherings of the French National Chrysanthemum Society. We understand that it is proposed ere long to issue a catalogue of every known variety of the Chrysanthemum grown in France. *C. H. P.*

JUDGING CHRYSANTHEMUMS.

I am not a believer in the comparison method of judging as practised by some judges of the present day. Such judge or judges commence their duties by examining the stands in the leading class; they select one that appears to be the best; they scan this carefully over, noting the best features, and pass on to the next best, endeavouring to compare the collections with each other in their "mind's eye," as it were, and perhaps they decide that No. 2 stand is superior to that they selected first. This is repeated perhaps several times before they conclude the class, which may contain as many as twenty collections. To make certain, they carry the supposed best stand of blooms around the show, placing it in front of others which at a glance appear equal in point of merit, or, to get a better view of the whole, they place the two supposed best stands on the floor, so that they can see down upon the blooms, and thus form a better opinion of their individual merits. They say No. 1 bloom in stand A is superior to that in stand B, while the next flower in order pulls back that advantage perhaps. At the finish A stand may lead B stand by one or two points. Now if the varieties in both stands were the same, and in order that a comparison of two blooms of the same variety could be made, then this system of comparison judging would be feasible, but when can two competing stands be found containing the same varieties and in the same order of arrangement? I venture to say never. Again, how can any judge carry the points of superiority in his "mind's eye" of a stand containing forty-eight varieties so accurately as to appraise correctly their full value, and at the same time give a reason for a decision if asked for one? Prizes are offered for a stipulated number of blooms; each of these should be appraised and its value recorded. Apart from the want of accuracy, much valuable time is spent in wandering to and fro from stand to stand.

Some judges when in a difficulty in respect to two stands, find a relief in awarding equal prizes. This, in my opinion, is a weakness. It is abso-

lutely impossible to find two stands equal in point of merit. There is a difference in the blooms, and that difference should be found and expressed. There is no such thing as equal prizes when a challenge cup is hanging in the balance; this prize cannot be divided like two cash prizes lumped together and shared.

So much for the comparison method of judging cut blooms. The only correct way of arriving at a satisfactory decision, and one by which a true

My plan when commencing to judge the blooms at any show is to take a stroll round the competing stands, mentally noting the finest specimens. In this way the "key" so to speak is obtained as to how the "pointing" should proceed. In commencing, judges will sometimes point a trifle high, and when an extra good bloom is met with later on, this necessitates a nearer approach to the maximum than perhaps is warriantable. Seldom indeed are blooms met

example a collection of forty-eight. Some judges examine the blooms from left to right, noting down the value of each. Although this is an accurate method of arriving at a decision, in practice it is found to require too much time. A better plan is to take the three rows of blooms at once from bottom to top. For instance, that in the front row is worthy of 3½ points, that in the middle 4, and the back bloom 5½; thus a total of 13 points is obtained. This number is noted by one of the judges. Each row is dealt with in the same way until all have been appraised; the result then is quickly summed-up, the other judge checking the figures. Where several stands in one class have to be pointed, the exhibitor's number is carefully noted at the head of the point column, or a private number is entered on one of the name cards at the left-hand end of the collection for future reference; this saves hunting for the exhibitor's number, and is equally accurate in the result. *E. Molyneux.*

THE COLLECTION AT ASHSTEAD PARK, EPSOM.

There are few growers of Chrysanthemums for exhibition who stand higher than Mr. George Hunt, gardener to Pantia Ralli, Esq., Ashstead Park, Surrey, who for several years has been gradually working his way up. We looked in upon him and his flowers during the wet afternoon of the 31st ult. prior to a flower being cut. What a superb lot of blooms greeted us! Probably some 3,000 at least, mostly Japanese, but some incurred also, for Mr. Hunt always grows these well, and this year so fine and good are they that he has but one formidable rival with that section to dread, and that is Mr. Higgs, his neighbour at Fetcham Park, who is indeed A1 as a grower of incurred blooms. The huge mass of plants is stored in some half-dozen early Vine and Peach houses, where just now, the flowers being within 12 inches of the glass, they get ample light. In spite of the weather there was not a speck of damp to be seen anywhere. Very fine indeed amongst hundreds were Mrs. C. Crook, Duchess of Fife, Lady Isabel, Pantia Ralli (new buff) Globe d'Or, Lord Alcester, Empress of India, C. H. Curtis, Robt. Petfield, Alfred Salter, Miss M. Hunt, John Lyne, Hanwell Glory, Miss Nellie Southam, Dome d'Or, Mons. Bruant, W. G. Egan, and Miss E. Seward, fine golden yellow. It will thus be seen that whilst some of the old favourites are still grown, new ones are well represented.

The Japanese are truly a magnificent lot. Generally they are grouped in the various houses according to their stages of development; but Mr. Hunt said that he could easily cut 200 blooms then of first-class order. During the first week in November he purposed exhibiting at Croydon, Portsmouth, Southampton, and the Alexandra Palace—a pretty large order—and at the National and a dozen other shows during the succeeding weeks. Very fine indeed of the Japanese were Mr. A. R. Knight, Miss Olive Miller, Lady Conyers, both reflexed and incurved; Miss Mildred Ware, colour of C. Davis; Bessie Godfrey, Nellie Pockett, G. Penford, which should supersede E. Molyneux; Ben Wells, blush-white, very fine; F. S. Vallis, grand yellow; Madame P. Radaelli, soft peach; Mafeking Hero, very fine; Madame Waldeck Rosseau, chocolate-crimson; Godfrey's Pride, Kimberley, Henry Stowe, M. Smith, Mrs. Greenfield, George Mileham, Mrs. Mileham, Lord Ludlow, Mr. T. Carrington, Mrs. T. W. Pockett, S. T. Wright, fine crimson; Duchess of Sutherland, orange-yellow; Mr. H. Emerton, Godfrey's King, reddish-crimson; and Marquis de Venosta, reddish-purple. These are but a few, but each one indicates fully-developed and singularly fine flowers. Very marked in the collection are numerous rich - coloured flowers which will greatly strengthen Mr. Hunt's exhibits.



FIG. 132.—ILEX AQUIFOLIUM VAR. LAURIFOLIA, 8 FEET HIGH, FROM MESSRS. CLIBRAN'S NURSERY. (SEE P. 316.)

explanation can be given as to the merits of one stand and the demerits of another, is by the allocation of points to individual blooms according to merit. Point judging too is much quicker than any other system, and one which bears the test of time. It does not follow that point judging should be adopted throughout a show. Common sense must be exercised in this matter. In many classes the distinctions between the competing stands are manifest at a glance, and it would be a waste of time to examine the blooms individually; but where the competition is at all close, the value of each bloom should be noted down and the added numbers will be the verdict.

with that are entitled to a maximum number of points.

Six points are generally allowed for a perfect bloom, although some judges adopt the higher scale of eight. I usually employ the former, and I am a staunch believer in half points, as in many instances a bloom does not receive justice with four points, whereas five would be too many. I do not hold with the three points maximum of some judges; the slightly differing gradations in merit cannot be so well expressed when three points only are employed. Six points provide an abundant range for gradation.

Experienced judges quickly find out the best method of "pointing" the blooms. Take for

NURSERY NOTES.

MESSRS. W. CLIBRAN & SON'S NEW INDOOR NURSERY.

ON visiting Messrs. W. Clibran & Son a few weeks ago, an opportunity was afforded us of inspecting the new glasshouses, offices and packing-shed that have been erected at Bank Hall, Hale. At the time of our previous visit, the headquarters of the business were at the Old-field Nurseries, Altrincham, but owing to the expiration of the lease or similar circumstance, the ground at Altrincham upon which the glass-houses stood has been surrendered, and a new

We found that the indoor nursery now comprises about thirty-three span-roofed houses, all of which are 180 feet in length, and most of them 11 feet in width; but some that are used for housing pot-Vines, Roses, Chrysanthemums, and other big plants, have a width of 21 feet. Preparations were being made for the erection of a corridor into which one end of every house will open, thus connecting all with each other and with the packing-shed. Much thought has been given with a view of providing every means possible to save labour. Sunken iron rails have been laid along the pathway in each house, and by the use of the turn-tables it will be possible to run the trolleys through the houses along the

in much waste of time and in rapid deterioration in the hose itself, owing to the twists that occur when moving it about. But we have held that the practice of affording water to pot plants directly from a hose-pipe is dangerous, and except it be done by an experienced and careful man much injury may result.

The packing-shed is an immense building, that at first sight appears to be unnecessarily capacious, but not so when it is remembered that Messrs. Clibran do a large business in trees and shrubs, many of which have to be packed for transit when they have grown to a considerable height. Such packing requires a great deal of space, and all this work will now be done under



FIG. 133.—COLLECTION OF ONE THOUSAND CELOSIAS, FROM A PHOTOGRAPH TAKEN IN THE HALE NURSERIES IN AUGUST. (SEE P. 316.)

indoor nursery and offices are now nearing completion at Hale. For the information of any future visitors it may be well to state that, proceeding from Manchester, Hale is the next station to Altrincham, on the Cheshire Lines Railway. Hale, and not Altrincham, is the station at which future visitors should alight, and the nursery is scarcely a mile distant. There is little doubt but the removal will be attended by certain advantages that will compensate for the trouble and outlay it has involved. Among these must be reckoned that of being a greater distance from the smoke area of the city of Manchester, and also the opportunity the firm has acquired of building exactly the stamp of house and building that previous experience and observation have proved to be the best for the purpose of cultivating and packing the various plants that constitute the nursery stock.

corridor and into the packing-shed. This alone will save quite half the trouble consequent upon the removal of plants from one position to another in the same house, from one house to another, or to the potting or packing-sheds.

Another effort in labour-saving, and one perhaps which will be thought by some readers to be a little dangerous, has reference to the affording of water to plants. Water-pipes have been placed beneath the stages, and there is a tap at every ten feet distance. Except for the watering of specially tender plants and young seedlings, the water-can will not be used. A short piece of hose-piping is affixed to the tap, and by this means the water is applied to the plants. The provision of so many taps has cost considerable money, but it is thought that this will be more than balanced by the save effected in labour and in hose-piping, it being well known that the use of long stretches of pipe results

cover, the large double doorways providing ample space for the vans to be brought into the building. A part of the shed has been enclosed and provided with means of heating, and in this division the tender plants will be packed without suffering a check. The total length of the shed is about 76 yards, and the width 35 yards.

SOME PLANTS IN THE HOUSES.

We do not intend to inflict the reader by attempting to enumerate the species of plants contained in the glasshouses, but will refer to a few only that attracted our attention at the end of August. And first place may be given to a batch of *Celosia pyramidalis* that was very remarkable for excellent strain. On one side of the path were the red-coloured varieties, and opposite to them the yellow and orange shades. There were infinite shades in both groups, and the plants were of moderate height, sturdy, and bore

splendid plumes. The collection was unusually free from the seedy, weedy varieties that are frequently seen. At our request Messrs. Clibran obtained a photograph of the one thousand or so plants, and it is reproduced in fig. 133, p. 315.

We were favourably impressed with the appearance of the pot Vines; 1,000 were contained in one of the larger houses, the canes 10 to 12 feet long, and of good strength. The collection included the little-known varieties as Lady Hutt, Diamond Jubilee, Ferdinand de Lesseps, &c.

Pot Roses are cultivated in great numbers; one house contained 1,400 plants of climbing varieties, among which was a considerable stock of the new Dorothy Perkins. Climbing varieties overflowed into other houses, and in addition to these were some 1,500 dwarf Roses also in pots.

Another large house contained varieties of Tea Roses planted in borders. There were also 2,500 plants of *Ampelopsis Veitchii* in pots, and an enormous stock of Clematises, of which perhaps the most popular variety at the present time is *Ville de Lyon*. Ferns and Palms fill a number of houses, the varieties being those most commonly cultivated. The tuberous Begonias were making a fine display, and included a good representation of the strain producing crested flowers. Cyclamens form another large feature of the indoor collection of flowering plants.

Greenhouse climbers appear to be given much attention, and the collection is very extensive. There was a large stock of young plants half-a-foot high of *Acacia pubescens*, which trade propagators will recognise as a most difficult plant to increase. There were plenty of good *Camellia* plants, and in the stoves a nice collection of ornamental foliage species of plants, as well as of those that are cultivated for their flowers. *Ixoras* and *Clerodendron fallax* were good, and the stock of *Codiaeums* (*Crotons*) was well cultivated and possessed good colour. *Dracena Doucettii* was represented by two or three dozen excellent plants in 7-inch pots. Several houses contained Carnations, and some of these were being layered at the time.

In other houses were noticed zonal Pelargonium Henry Jacoby with variegated foliage, a large stock of *Abutilon vitifolium*, the handsome Honeysuckle *Lonicera Hildebrandtii*, quantities of *Berberis Freemontii* as tiny seedlings with two or three leaves only, *Retinospora Sanderi*, just grafted, *Embothrium coccineum*; but, as we have already stated, it is not our purpose to enumerate the comprehensive collection of species.

THE OUT-OF-DOORS NURSERY.

Rarely does Manchester experience wetter weather than there was on the day we went to Hale, and for that reason we were not able to inspect closely the stock of trees and shrubs, herbaceous plants, &c., in the outside nursery. But we have seen them on other occasions, and know that the 300 or so acres of land is well cultivated, and the stock consequently is of a high order of merit. Trees and shrubs are frequently transplanted in order to get them to produce numerous fibrous roots, and they then suffer very little check after being despatched to customers. Only by such means can similar specimens to the Hollies we now illustrate from Messrs. Clibran's nursery be produced. Fig. 135, p. 322, represents a plant of *Ilex Aquifolium* var. *alticlaurensis* (*Shepherdii*), a very hardy variety, having large, oval, thick leaves, and succeeds in the midst of a town, being little injured by smoke. The plant illustrated is 10 feet high. *I. Aquifolium* var. *Hodginsii*, 7½ feet high, in fig. 136, p. 322, is well known to be one of the best broad-leaved varieties. In fig. 132, p. 314, *I. A.* var. *laurifolia* is shown 8 feet high. It has ovate leaves, and is nearly destitute of spines; and being one of the very hardiest is also a good town plant. *I. A.* var. *maderensis*, shown in fig. 134, p. 317, is an erect grower, and has broadly ovate spiny leaves. The specimen illustrated is 10 feet high.

KEW NOTES.

ORCHIDS AT KEW.—Among the numerous plants now or recently in bloom, *Stenoglottis longiflora* and *Habenaria carnea* are very attractive, whilst for lovers of botanical curiosities *Phymatidium tillandsioides* is a gem, as also is *Masdevallia Lauchiana* with its white flowers and orange-tinted awns. A flower of *Cypripedium concolorae* × is remarkable for having its two side petals bag-shaped like lips.

PITCAIRNIA FERRUGINEA,

which is just going out of bloom in the Palm house at Kew, is a very striking plant. It is several feet in height, Yucca-like in habit, with dense tufts of glaucous, recurved, linear strap-like leaves with spiny margins. The flowers are borne in large loose panicles 5 or 6 feet long. Each flower is 3 or 4 inches long, linear, curved like a claw, the outer segments covered with rust-coloured down, the petals white, ultimately twisted. The *Puya grandiflora* of the *Botanical Magazine*, t. 5234, is considered synonymous.

KLEINIA GALPINI,

now in flower, is a very striking greenhouse plant, a foot or more high, with somewhat fleshy-white oblong leaves and orange-coloured flower-heads. It is a native of the Transvaal, and was figured in the *Botanical Magazine*, t. 7239.

POTENTILLA DAURICA.

A very curious dwarf, shrubby species under this name may be seen in the rock-garden. The branches are woody, more or less contorted, and bent downwards, so that they resemble the curiously distorted trees beloved of the Japanese, which have become fashionable here also. *Podocarpus alpina*, also to be seen on the rockery, has a similar habit.

SHRUBBY VERONICAS.

The introduction of various species from New Zealand has constituted a new and very interesting addition to our gardens. The plants are suitable for borders, rockeries, or as pot plants on balconies and similar situations. There is a very interesting collection of them on the bank at the head of the herbaceous ground, near to the Cumberland Gate.

HIPPOPHAE RHAMNOIDES.

When this shrub is covered with its orange-coloured berries it is indeed a very striking object. There is such a specimen near one end of the Palm-house. The plant is dioecious, so that it is necessary to have the plants of the two sexes in proximity, or, better still, to graft a male branch on to a female bush. Unfortunately, when the shrub is out of flower it is not possible to recognise the sex, so that nursery-men should be careful to mark the sex of their plants when in bloom. *Visitor*.

CAMOENSIA MAXIMA.

This extremely beautiful but unfortunately shy-flowering plant is once again flowering at Kew, it being five years since it last flowered. The Kew plant is about thirty years old, and is planted out in a border in a stove, the shoots being trained up the roof. It is certainly one of the most gorgeous flowering plants in the great order Leguminosæ, and it is said to be one of the largest. The plant now in flower carries only one raceme of ten flowers, and each flower is about 8 inches long, the standard measuring 4½ inches across. It is creamy-white in colour, the petals being beautifully fringed with a border of golden-yellow, and is sweetly scented. It is a native of Western Africa, and was figured in the *Botanical Magazine*, t. 7572 [and in the *Gardeners' Chronicle*, November 14, 1896, Ed.]. If plants are grown in pots in a stove during spring and early summer, and then

about August removed to an intermediate temperature, and the shoots tied close to the glass, where they will get full sunshine, I think this species will give more satisfaction than it has done hitherto. *H. W.*

THE ROSARY.

SEASONABLE NOTES ON ROSES, &c.

STANDARD and dwarf Briars budded during the summer can now be pruned back to four or five eyes from the inserted bud. In the Manetti and seedling Briar they can be shortened back to three eyes from the axil of the growth. If any suckers appear at the base of the plant, cut them off as low down and as near the stem as possible. It is now time to prepare and pot up Briar and Manetti stocks for grafting in the months of December and onwards. The Briar and multi-flora stocks are the best for Noisettes and Hybrid Teas; and the Manetti stock for the Hybrid Perpetual class. Grafting is usually commenced by the trade growers in November, but the stocks would be potted up late in the spring, and being now thoroughly established, a start can be made much earlier and with a greater certainty of success than can be said of the stocks more recently potted up, and as a rule go away without a check. With the Editor's permission I will make a few further remarks on this subject next month. *J. D. G.*

THE LILY SEASON OF 1903.

It cannot be said that the atmospheric influences which have prevailed during the past season have been altogether unfavourable to the success of those Lilies to which our gardens owe so much of their attractiveness. Many of them, such for example as *Lilium Henryi* and *Lilium Szovitzianum*, have reached an almost abnormal growth, and flowered luxuriantly. One remarkable specimen of *Lilium auratum*, growing in my own garden, produced three powerful fasciated stems (the result of hypertrophy), bearing at least 120 flower-buds, which, in order to ensure larger blooms, I greatly reduced, the result being at once highly gratifying and extremely effective. To all involuntary cultivators of fasciated Lilies I recommend this course. No Lily is improved in artistic appearance by being permitted to develop a multitude of flowers of half the usual size. In such instances as I have indicated, severe disbudding is absolutely imperative, otherwise what may be termed abortion is inevitable: *Lilium Kramerii* and *L. Browni* were the only two Lilies of any importance for garden decoration that did not succeed well in South-Western Scotland this year. But on the whole they were not greatly missed, for they have always been extremely frugal in the production of their flowers, not seldom strictly confining themselves to one solitary bloom. A much more reliable Lily is *Lilium Henryi*, a native of China, which sometimes produces, as it did this season, as many as twenty-one flowers of a glowing Apricot colour on a single stem. For this reason it is preferable even to that invariably hardy and very beautiful Chinese introduction, *L. tigrinum splendens*.

The storm which swept over our gardens in July was, even in sheltered regions, exceedingly destructive, its influence being especially experienced at Logan House in this peninsular parish, where many noble specimens of the great Lily of the Himalayas, *Lilium giganteum*, 11 feet high, were utterly destroyed, their loss being much regretted by Mrs. McDouall, who was justly proud of having grown so successfully, up to that crucial period, such splendid plants as these. Contemporaneously there were shattered in my

garden three white Foxgloves, 8 feet high, which I lamented quite as much; but I had many consolations in other directions, though *Lilium giganteum* could not easily be replaced.

Lilium rubellum, one of the latest of Eastern introductions, is, I greatly fear, not enduring, for it has entirely died out with me. This humid climate manifestly does not agree with its delicate nature, which somewhat resembles that of *Lilium krameri*. With a drier, warmer atmosphere and better drainage than I am able to give them, those Japanese Lilies might possibly succeed; but under the influence of our Scottish winters, with their frequent floods of rain, they rapidly deteriorate and utterly decay.

Of a widely different character is *Lilium pardalinum* and its almost similarly-coloured derivative, *L. Burbanki* ×, which, like *L. monadelphum* (var. *Szovitzianum*) and *L. chalcedonicum*, seem to grow stronger and more florally impressive year by year. Nothing, indeed, has given me greater gratification this season than the success of the Californian Lilies, of which, for a long period, I had almost despaired; though that veritable gem, *Lilium Washingtonianum*, in one situation at least, has always flowered well. *Lilium Humboldtii* I find much more arduous of cultivation, unless in a rarely congenial soil.

I have no fault to find with *Lilium auratum* this year; it has in most instances, as I have already indicated, grown with vigour and flowered freely. *Lilium auratum platyphyllum*, though greatly eulogised by the majority of cultivators by reason of its majestic height and wonderful durability, I do not greatly admire; its complexion is much too pale to be effective; it has not the rich colouring of the original type. For my own part I greatly prefer that much more evanescent variety, entitled *rubro-vittatum*, which, though not so vigorous in growth, has a much more attractive appearance and greater distinctiveness. But it has this very serious limitation, that it does not endure. Of all my Lilies, by far the most lasting and one of the most beautiful is *Lilium speciosum rubrum*. It should be found in every garden where such treasures are grown. *David R. Williamson.*

FOREIGN CORRESPONDENCE.

SOME VERSAILLES NURSERIES.

A VISIT to a nursery is always interesting in some way or another. Not to speak of persons, sometimes it is the plants themselves that constitute the chief attraction, sometimes it is the evidence they afford of the taste and of the requirements of the clients, always it is the cultivation. A visit to two or three of the principal Versailles nurseries serves to illustrate these remarks. For instance, at

M. TRUFFAUT'S

famous establishment, in addition to Palms and other furnishing plants, a speciality is made of Crotons (*Codiaeum*). The plants are robust in habit, finely grown and richly coloured. Cuttings are struck in early spring and afterwards planted out in low pits, where they are pretty close to the glass, and where food and warmth for the roots are provided by a thick layer of dung beneath the surface soil, while a pipe supplies the means of increasing the heat when necessary. By autumn the plants have obtained a good useful size, and are potted up and grown on in rather small pots, for these plants do not object to be pot-bound.

The sun and air of Versailles and the skill of the cultivator produce excellent results, so that Crotons bid fair to supersede, in part at least, the Dracenas, which, it is said, succumb more or less to disease. *Croton Reidii* is one of the sorts most sought after by reason of its bold foliage and rich crimson colorations; *C. Thomsoni*, Puccini-

anus, Mme. Viger, and Baroness A. de Rothschild, are also favourites.

Large quantities of Palms are grown, such as *Cocos Weddelliana*, the *Kentias*, *Phoenix canariensis*, for which there is a large demand in the South of France. *Linospadix Petrickiana* is a handsome Palm, but said to be difficult to grow; *Martinezia caryotifolia*, *Areca Verschaffeltii*, may also be mentioned as noteworthy.

Thunbergiana and *S. Van Houttei* for forcing in the winter.

Out-of-doors, Indian Azaleas from cuttings thrive well in peaty soil, and make as nice, compact plants, with healthy foliage, as they do in Ghent. Many of these Azaleas are grown in pits, which can be slightly heated in very cold weather. Hydrangeas of various kinds, such as *Otaksa* (very robust), *Thomas Hogg*, *Hydrangea Hor-*

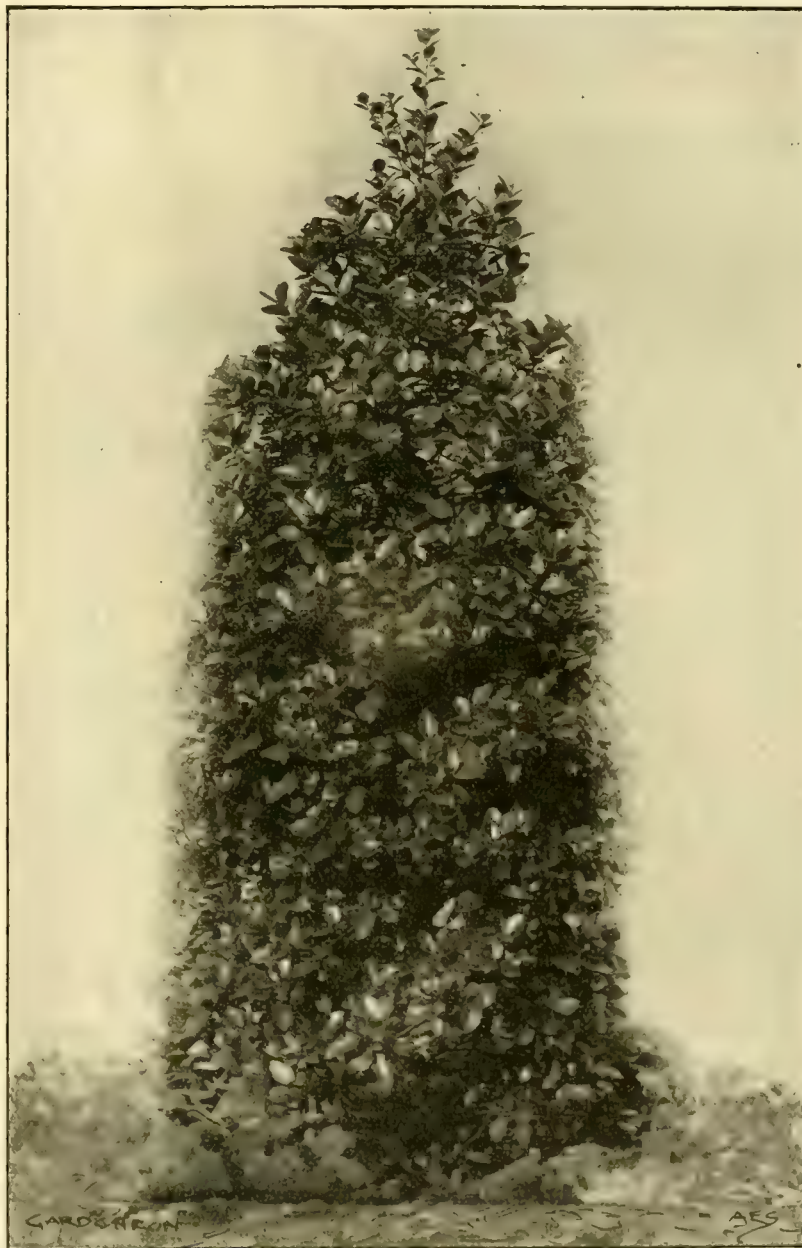


FIG. 134.—*ILEX AQUIFOLIUM* VAR. *MADERENSIS*, 10 FEET HIGH, FROM MESSRS. CLIBRAN'S NURSERIES. (SEE P. 316.)

Rubus reflexus (or *moluccanus*), which was one of the plants of the year at Ghent this spring, is here grown largely, and is making its way steadily into public favour. Turnford Hall Begonias, as well as *Gloire de Lorraine*, are grown in immense quantities for the florists; whilst *Cypripedium insigne*, for affording flowers at Christmas, is planted out in leaf-mould on benches. Incidentally it may be mentioned that these benches are so contrived that they can be raised or lowered at will. *Dracena Sanderiana* and *D. Godseffiana* are both largely grown, as well as large quantities of such plants as *Spiraea*

tensia rosea, with flowers of a lovely rose tint, are extensively cultivated. When planted in a slaty soil obtained from Angers and forced, they produce blue flowers in February.

Streptosolen Jamesoni here forms a big bush in the open air, and in September was covered with its orange-coloured blossoms. *Bougainvillea Sanderæ* is conspicuous here in the open ground for its dwarf habit and richly-coloured flowers. It is grown in pots on a bed of dung, kept rather dry all the winter, and flowers from March all through the summer.

Indoors, *Begonia Arthur Malet* deserves noti-

for its beautiful foliage of the same colour, or nearly so, as that of *Strobilanthes Dyerianus*.

Various species of *Hæmanthus* from the Congo are very beautiful when in flower, but are difficult to propagate, as they do not produce offsets.

Orchids of the most useful kinds for decoration or for cutting are seen in profusion, mostly in leaf-mould, of which more anon.

M. DUVAL.

In this nursery in particular the requirements of times and seasons are fulfilled by retarding or forcing as the case may be. The Saints' days and festivals of the Church are numerous throughout the year, and birthdays are commemorated by gifts of plants and flowers. Bromeliads, for the hybridisation and cultivation of which M. Duval has a European reputation, are here in thousands, for they are as popular on the Continent as they are neglected in England. Some of them are, nevertheless, attractive in foliage and very beautiful when in flower, as in the case of *Bilbergia rhodocyanea*. The coloured bracts of the inflorescence are often very conspicuous, and in hybridising M. Duval's object is to get a branched spike instead of a simple one, and highly-coloured bracts instead of green or colourless scales. Ferns, such as *Pteris semipinnata* and *Victoria*, *Lomaria gibba*, *Doryopteris palmata*, and others, are a specialty here. *Cypripedium insigne* is grown on benches planted out in leaf-soil. *Cattleyas* and *Odontoglossums* are also met with in abundance grown in leaf-mould. This *terreau de feuilles* varies a good deal in character, according to the state of decomposition it is in; it may be merely dried leaves in flakes, or it may be reduced to a compost, which, with a little sand, is pretty much the same as ordinary potting soil of peat and sand. This variation in the character of the leaf-mould may account for the diversity of opinion expressed by different cultivators as to its value; but though the character of the soil may go for something, for much even, it is after all the care and attention bestowed by the cultivator which are of the greatest importance. The great advantage of the employment of this particular *terreau* consists in the economy of labour. Water is afforded at intervals of fourteen days only! This was a sufficiently striking statement, but it was often repeated to us, and plants were turned out of the pots to show us the living sphagnum above, then the upper layers of moist soil for about halfway down, the remainder being relatively dry. All this is very surprising, but there can be no question as to the health and vigour of the plants, and it is quite certain that if this method of cultivation were not advantageous it would not be adopted by so keen a cultivator as M. Duval.

Among *Dracenas*, *D. Massangeana* is preferred to *D. Lindenii*. A hybrid between *D. cannaefolia* and *D. indivisa* is good for market purposes, as the leaves do not so readily get broken.

As to the *Marantas*, the *Caladiums*, and the hosts of other plants grown here, we can say no more than the cultivation is excellent and so contrived as to secure that the plants shall be "up to time" when required. If not they would be returned to the grower and a season would be lost. M. Duval is much too expert a business man for any such calamity to happen to him.

Just as we were leaving, our attention was attracted to a Rose of the *Polyantha* section, called *Schneewitchen*, bearing, at the end of September, a profusion of moderate-sized flowers in bunches and of a snow-white colour shacked with orange. We were told that the plants had been in flower all the summer; and with the mention of this beautiful Rose must end our scanty notes of a most interesting establishment. *The Rambler*.

(To be continued.)

VOLVARIA LOVEANA, Berkeley.

AFTER some thirty-eight years' search it was my good fortune to meet with this species on October 26. My friend Mr. W. G. Smith had the good fortune to see specimens many years ago and secured typical examples for figuring, but among my other mycological friends I do not recall one who has been equally fortunate. Possibly it may occur in other localities during the present season, so I would advise those interested in the study of fungi to keep a look-out for it. Berkeley's figure in the *Outlines*, t. 7, fig. 2, is rather misleading. So is that given by Knapp under the name *Agaricus surrectus* on p. 386, *Journal of a Naturalist*, fourth edition, 1838, inasmuch as they show the *Agaric* (*A. nebularis*), upon which it is parasitic, in a very robust condition. In my specimen the host (*A. nebularis*) was quite sodden and collapsed so as to be practically unrecognisable unless one had known what species to expect. Personally I have always expected to find the *Volvaria* upon much less dilapidated hosts. In fact *A. nebularis* generally becomes destroyed by larvæ before it gets into the sodden state in which it bears the *Volvaria*. Of the *Volvaria*, Knapp's figure is the best, it being larger and more erect than the figure in the *Outlines* indicates. Charles B. Plowright, M.D.

TREES AND SHRUBS.

COTONEASTER FRIGIDA.

THOUGH introduced from Nepaul about three-quarters of a century ago this small-growing tree has hardly received the attention that its merits entitle it to. For exposed situations and cold, stiff soils, it has few equals, while the growth is rapid and the habit close and shelter-giving. Some of the largest specimens I have seen are growing in Regent's Park, London, several having attained to a height of fully 50 feet, while the fact of their growing and forming beautiful specimens on almost pure clay is a recommendation that should not be lost sight of by intending planters. The flowers, which are in creamy-white corymbs, are succeeded by a wealth of scarlet berries that render the tree of particular interest from September onwards. A. D. Webster.

The Week's Work.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Seakale.—Where the demand for Seakale is great, brick pits capable of being afforded top and bottom heat should be employed, the bottom heat being afforded by beds of fresh Oak or Beech-leaves 2 to 3 feet thick. After the leaves have been made firm and the fermentation has begun a thin bed of leaf-soil should be placed over the leaves and made level, and on this the crowns should be stood in straight lines at 4 inches apart and 2 inches from plant to plant. As the young shoots must be made in complete darkness, the light must be excluded with close-fitting shutters or other suitable covering. If only a limited quantity is required the Seakale crowns may be forced in the Mushroom-house in big plant-pots or boxes. The former form the more convenient receptacle, as a similar sized pot may be used as a cover, taking care to prevent light from entering the holes in the bottom.

Rhubarb.—Let a sufficient number of strong roots of the early varieties to meet the demand, be forced similarly to Seakale.

Turnips.—Pull and store in sand or finely-sifted coal ashes all bulbs of suitable size before they are injured by frost. The bulbs may be stored in a shed or pitted in the open and covered with bracken or straw, and in the

course of a few days place soil to the depth of 3 inches over them, leaving a few ventilating holes along the ridge of the heap for vapour to escape. The small roots left in the ground can be readily protected by drawing earth up to them with a hoe, in the same manner as Potatoes are earthed up.

Carrots.—The August sowing should be made secure against frost by placing garden-frames over the beds, or using bracken or stable-litter. There is no necessity to cover the beds before sharp frosty weather sets in, and the covering should be removed in mild weather, at the least by day. Sow Early Horn in frames on a hot-bed or in heated pits. Earlier sowings in pits when well established should be well aired in mild weather.

General Remarks.—The continuous rains have been a great hindrance to the tree planter; but the time has arrived when the gardener must make an effort to finish planting, which should not be very difficult if a spell of dry weather ensues. Even when owing to the wet state of the soil actual planting cannot be pushed forward, trenching and digging the land can be undertaken, as also that of land intended for early crops. In frosty weather, when the land is hard, manure may be wheeled on to vacant pieces of ground before the sun gets warm. The compost heaps should be kept in a tidy state, rubbish-heaps turned and squared up, hard rubbish burned and the ashes preserved for use. The collection of tree leaves should receive attention; Globe Artichokes being protected with some of them and a little straw, and some clods placed on them to keep them in place. Care should be taken in doing this not to smother the heart leaves. Take up strong suckers, pot them and place in a cold pit from which the frost must be kept out. Cauliflowers and early Broccolis should be lifted entire or the heads only saved, and stored in a cool cellar. Heads getting forward should have the leaves broken down, so as to form a protection to the head. Slugs abound this autumn, and war must be waged against them unceasingly, or much injury to winter crops will result. I know of nothing better than finely-sifted coal-ashes. Soot and quick-lime are of little value as preventatives during showery weather.

FRUITS UNDER GLASS.

By T. H. C.

Figs in Pots.—Fig-trees for producing the earliest fruit should now be repotted or top-dressed, as the state of the soil and the plants seem to demand (see Calendar for September 26). For April or May fruiting, let the trees be started towards the middle of the present month, affording a bed of stable-manure and Oak-leaves with which to surround the pots, which should rest upon pedestals of bricks. Let the house be well cleansed in every part, lime-wash the walls, and wash the trees with an insecticide. Having previously done what little pruning that is necessary, merely thin out the shoots to leave the head of the tree evenly furnished with fruitful wood. As a commencement, apply bottom heat not exceeding 60° to 65°, increasing the amount as growth proceeds. If the house be put in readiness at about this date, it may be closed during the first few days without artificial heat, and at the end of that time a night temperature of 50°, and by day of 10° more, may be afforded. Maintain a moist atmosphere by damping the floors, paths, &c., and syringe the trees twice daily with tepid water.

Succession-houses.—The present affords a suitable season for root-pruning over-vigorous, unfruitful trees, and if the roots are not restricted to small brick-built chambers, it will repay to have this work attended to at this season. The earliest-planted-out trees may be pruned as soon as the foliage falls, and the house prepared for starting in December. If the pinching of the shoots was practised during the summer, it will be necessary only to thin out the shoots, so that when tied to the trellis at 6 inches apart, those on the lower parts of the trees are encouraged, and the middle kept well supplied with bearing wood. As the Fig produces its first crop of fruit on the growth made this season, there should be no shortening of the shoots. If a tree is destitute of fruiting-wood,

except at the extremities of the branches, the latter may be pruned hard back, when numerous shoots will start in the spring, from which a selection may be made for forming a well-balanced tree. The cleansing of the house and trees being finished, scrape off the surface-soil of the borders, and point them over with a fork; and to trees in need of it apply a top-dressing of turfy-loam and an eighth part of the whole of mortar-rubble and charred garden refuse. To aged fruitful trees apply a good sprinkling of bone-meal in the loam. A mulch of decayed farmyard or spent Mushroom-bed manure should be laid on the border after the house is started, previously affording the border tepid water copiously. Afford trees in later houses artificial heat, with full ventilation and a dry atmosphere in order to ripen the shoots.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Early-Flowering Bulbs.—Several of those potted in the month of August may be taken out of the bed of coal-ashes, such as paper-white Narcissus, Roman Hyacinths, and Jonquils. Plunge them to the rim in coal-ashes under frame-lights if the roots are freely forming, but a few of the stronger may be placed near to the roof-glass in a house having a temperature of 58° or 60°. Jonquils do not respond to hard forcing, and are more satisfactory for flowering in late spring, although they are among the first to start into growth. The Duc van Thol Tulips force well; but they possess very short stems, a disadvantage which may be minimised by placing inverted flower-pots over them for a short time. Weak applications of manure-water may be afforded once or twice a week to those bulbs pushing up flower-spikes. Lily of the Valley crowns may be lifted from the open ground and potted or boxed up, plunging them in ashes for a few weeks before subjecting them to heat. Retarded crowns will give the best results at present. These should be potted very lightly, and a little fresh moss or sphagnum placed over the crowns. Let them stand in the greenhouse for a week, and do not water them until they are removed to a temperature of 55° to 60°.

Camellias growing in pots or tubs, and upon which the flower-buds are swelling, should be afforded weak manure-water or a sprinkling of some approved chemical manure once in eight or ten days. Let the heat be as little as possible, and afford free ventilation in favourable weather. Camellias require considerable attention or the white scale infests them and covers the stems and foliage with a black deposit, which no syringe or hose is capable of removing with clear water. If any of the plants in the beds or in tubs are in this condition, scrub the hard wood, using soapy water, and syringe the foliage with an insecticide such as "Abol" or "Dixlor," in the afternoon, then use the hose upon them with full force next morning; this will remove much of the filth, but the sponge may be required to thoroughly cleanse the leaves. We use the hose upon our trees each morning until the flowers begin to expand, and leave a little ventilation open at night unless frost or cold winds threaten. We have just finished tying-in the longest growths, and though early spring, when the trees have just flowered, is usually the time when the pruning is done, we are not bound by this rule, but freely thin out at this season any shoots that have no flower-buds, as trees grow very much stronger when planted out.

Liliums.—*L. speciosum* (lancifolium), auratum, tigrinum, &c., which make new roots quite early in the autumn, should be taken out of the pots and shaken clear of the exhausted soil; then repot them, and plunge the pots to their rims in coal-ashes or cocoa-nut-fibre refuse, placing a couple of inches of the latter over the bulbs. The compost should consist of loam three-fourths, and peat, leaf-soil, a little small charcoal and sharp-sand together one-fourth. The pots, which may be 8 to 12 inches in diameter, should be clean, and sufficiently provided with drainage material. From four to eight bulbs may be put into each pot according to the size of the bulbs, leaving space for a top-dressing when a

little growth has been made. Unless the compost is very dry, do not apply water until growth has commenced. Imported bulbs may be potted up at any time until the month of March, and they will form a succession to those indicated above. Early-potted bulbs of *L. Harrisii* that are growing may be afforded a temperature of 55° to 60° at night. Fumigate or dust the leaves and stems with tobacco-powder on the first sign of green-fly.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq. Dropmore, Maidenhead.

Damsons and Bullaces.—These plants may be economically planted as garden hedges, alone or mixed, with or without stiffeners such as Holly, Hornbeam, &c., or as part of an orchard; the windier sides may be planted with them. When planting a wind screen or hedge in the vicinity of a garden, the trees may stand 20 feet apart. Holes should be dug out in the desired direction about 2 feet wide. If the staple consists of fairly good loam, some of it may be retained for filling in the holes, but it is better practice to afford the trees a wheelbarrowful of fresh soil, or that which has carried Melons or Cucumbers. Let the trees be staked after planting with loose ligatures, to allow of the trees sinking together with the soil. If the winter is likely to be severe, keep frost out of the land with a mulch of some kind. The Farleigh or Crittenden is a good variety for this method of culture, the fruits small but of nice flavour. The Hereford Prune Damson is a much larger fruit, and is a good variety. The White Damson bears oval, orange-coloured fruits, which make a good preserve. Bullaces are of similar habit to the Damson, but the fruit should be allowed to hang as late as possible in reason on the trees, and is then excellent for culinary use. For planting in exposed places, standards and half-standards are the best, and these should be budded or grafted. The crowns should be well thinned out, or every few years very dense heads will form, and the trees in the course of time become unfruitful.

The Mirabelle Plum.—A few trees of the Mirabelle Plum, or Cherry Plum, should be planted. They often fail to fruit owing to blossoming so early, although in sheltered positions in the south and west they fruit well, and I have seen heavy crops in Essex. Of the two kinds, I think the yellow-fruited variety is the hardier.

The Blackberry.—The fruit this year has been of poor flavour, owing to the lack of sunshine. Any shoots that have borne fruit, and small growths, should be removed entirely, selecting those for next season's fruiting, and fastening them to a fence or trellis.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Planting Roses.—Open weather with scarcely any frost is keeping Roses in a growing condition, Teas being especially active. The present is, however, the best possible season for planting, and provided a little extra care is taken to keep the bark plump between the time of lifting and replanting, the benefit will more than outbalance any injury caused by lifting the plants while the shoots are still unripe. New root-action will soon be set up, and the plants will become well established before winter. It is possible that plants which have to be bought in from nurseries may come to hand in a slightly shrivelled condition, in which case it will be advisable to bury or cover them wholly with damp soil for a day or two before planting. Few plants like a rich larder and deep soil better than do Roses. Trench the soil, and place at least two good layers of stock-yard manure between the bottom spits, low enough down to escape actual contact with the mutilated roots, but close enough to be within reach of new roots as soon as these have been made. A sprinkling of crushed bones throughout the upper layer of soil will be helpful. In planting dwarf Roses, it is advisable to bury the roots rather deeply, so that the point of junction between the stock and the scion is below the surface of the soil, so that new roots may be formed from the scion

itself. Tender varieties thus planted are safe during a sharp winter. Plant firmly, and tread the soil well-in round the plants if it is in a condition to bear treading without becoming pasty. If not in this condition, it may be well closed round the roots by affording water freely.

Rhododendrons are among the least impatient of removal, and any planting operations may be done now; indeed, any buds that have set for flowers generally open best on autumn-planted bushes. Should the soil be heavy, the addition of decayed leaf-mould will be found of great help, and where chalk is near the surface it will be advisable to make a big and deep hole for each plant, and fill up round the roots with soil quite free from chalk.

Azaleas may be planted in woodland clearings, choosing for the purpose the old-fashioned Ghent varieties in preference to the more modern hybrid forms, which are not universally hardy.

Climbers.—Deciduous climbers having now lost most of their leaves, may be relieved of the smaller spray growths, which would be useless for flowering next year, and be neatly tied or nailed to their supports. Any unfinished planting operations, any planting of climbers that has still to be done, especially of Clematis, should be finished soon, and the stems tied to the supports loosely to allow for the settlement of the soil.

The Frame Ground.—The continued rain and mildness is inducing cuttings of Violas, Antirrhinums, Pentstemons, and Calceolarias to push growth, which should be checked by affording them full ventilation, as though all, excepting Calceolarias, are hardy, new growth made at this time of the year usually gets nipped by frost unless it be well matured and hardened.

Lawns.—Sweeping up leaves will be an almost constant job for the present, that is, till the trees are quite bare, and mowing being at an end, the machines, both hand and horse, should be cleaned and oiled, and if repairs are necessary these should be carried out as soon as may be. It is seldom advisable to defer these things till the winter is over, there being always delays to reckon with.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Dendrobium Phalenopsis Schroderianum, Statlerianum, biggibum, and formosum giganteum.—The flowering season of these species is approaching its close. The plants should remain in a dormant state for about five months, and during this period of time they should be afforded a temperature of 60° to 65°, admitting air whenever it is advisable so to do, and as much sunlight as possible. Very little moisture at the root or in the air is needed. Thrips infest these plants at the time of flowering. Fumigation is then not permissible for fear of disfiguring the blooms, but the flowering over let the plants be thoroughly cleansed before putting them into their resting quarters.

Dendrobium Dalhousieanum, moschatum, and fimbriatum.—The plants of these species are late in finishing their growth, and a liberal treatment should be afforded till the terminal leaf is visible, afterwards reducing the quantity of water at the root until the flower-spikes begin to push, in the month of April. During this period the plants should be kept in the same house which they occupied during the growing season.

Dendrobium Brymerianum.—This is likewise a plant that is sometimes late in starting into growth, rendering it very uncertain when the growth of the pseudo-bulbs will be finished; and until this stage is reached the plants should remain in their growing quarters. For resting the plants should be placed in a Cattleya-house, as if kept too warm aerial growths soon push from the points where the flowers should appear. This species should not be dried off, like many deciduous species of Dendrobies.

Dendrobium Darcii.—This species should be placed in the warmest house, in a light position. The plant is nearly always either growing or flowering, and needs a liberal supply of water at the roots and in the air at all seasons.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the **Publisher**.
Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the **EDITOR**, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

- SATURDAY, Nov. 7** Soc. Franc. d'Hort. de Londres meet.
- TUESDAY, Nov. 10** Royal Horticultural Society's Committee meet. Lecture on "Merits and Evils of Size;" National Chrysanthemum Society's Exhibition at Crystal Palace (3 days), Chrysanthemum Shows at Birmingham (3 days), Ipswich (2 days), and Oxford.
- WEDNESDAY, Nov. 11** Chrysanthemum Shows at Chester (2 days), Buxton, Winchester, Liverpool (2 days), Reading, Canterbury (1 day), Guernsey (2 days), and Rome, Italy (1 day); Rugby (2 days), Corn Exchange, London (2 days).
- THURSDAY, Nov. 12** Chrysanthemum Shows at Putney (2 days) and Jersey.
- FRIDAY, Nov. 13** Chrysanthemum Shows at Blackburn (2 days), Bradford (2 days), Eccles (2 days), Leicester (2 days), Stockport (2 days), Sheffield (2 days), Nottingham, and Macclesfield (2 days).
- SATURDAY, Nov. 14**—Royal Botanic Society meet.

SALES FOR THE WEEK.

- MONDAY to FRIDAY NEXT**—
 Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.
MONDAY, Nov. 9—
 Bulbs, Roses, Lilacs, &c., at Stevens' Rooms at 12.30.
TUESDAY, Nov. 10—
 Sale of Nursery Stock at the Bury Road Nurseries, Gosport, by Protheroe & Morris, at 12 o'clock.
WEDNESDAY, Nov. 11—
 Azaleas, Rhododendrons, Palms, Roses, Hardy Border and Herbaceous Plants, at 67 and 68, Cheapside, E.C., by Protheroe & Morris at 1 o'clock.
 —Bulbs, Spireas, Roses, Azaleas, &c., at Stevens' Rooms.
FRIDAY, Nov. 13—
 Orchids in variety, by Protheroe & Morris, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11.30.
 (For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —43°.

ACTUAL TEMPERATURES:—

LONDON.—Nov. 4 (6 P.M.): Max. 53°; Min. 40°.
 Nov. 5 (noon): 49°; misty, calm.

PROVINCES.—Nov. 4 (6 P.M.): Max. 52°, Llandudno; Min. 46°, Orkney.

The members of the "Royal Caledonian" have decided to hold an International Horticultural Exhibition in September, 1905, at Edinburgh. They give as their reasons for doing so the substantial benefits conferred on horticultural interests throughout the country by the five international horticultural exhibitions previously held in Edinburgh. Considering the vastly increased developments of horticultural interests in the fourteen years since the last one was held, they are of opinion that the time has come for another great exposition to show the progress made in the interval. Interested readers of this retrospective and prospective statement will consider whether there has been decided

advancement along the line from the first of these extraordinary exhibitions, and whether these international exhibitions have been helpful to the advancement of horticulture. Looking back to the first of these (1865) we see in it the first great departure from the usual autumn show, in which a large number of stands of Hollyhock spikes and immense Dahlia blooms constituted the main purpose for which the flower show existed. The cultivation of large specimen foliage and flowering plants was mostly confined previously to the neighbourhood of London.

Hothouse fruit began now to be exhibited of much finer quality and size, and there was a marked improvement in staging it. RIVERS' system of growing fruit in pots in orchard-houses was now well spread through the country, with the result that there were much finer exhibits of hardy fruit at the show. The late Mr. WILLIAM THOMSON, who revolutionised the cultivation of the Grape-Vine and produced heavy crops of splendidly-finished Grapes, attained a European reputation about this time by taking some ten varieties of Grapes to Paris and getting the first prize at a great horticultural exhibition there. His brother, Mr. DAVID THOMSON, brought to the 1865 Edinburgh show very much finer Pine-apples from plants eighteen months old than were produced formerly from plants three years old. The same exhibitor, and some others in the East Lothian district, brought Muscat Grapes to this show better than any that had been seen before.

And then sprang into existence a great desire to build hothouses of improved size, construction, and heating, with the result that the International Exhibition of 1869 brought forth exhibits of fruit and plants grown under glass which again showed a marked advance on any previously exhibited. The Earl of Stair had built a number of new glasshouses in his Castle Kennedy Gardens, and his gardener, Mr. FOWLER, brought to this exhibition a large number of bunches of Grapes, collectively surpassing any Grapes shown before. In the year following the first of the large mercantile fruit-growing establishments appeared, namely, that of WM. THOMSON & SONS, Clovenfords, in making which venture some of his contemporaries thought he had taken leave of his senses.

The International Exhibition of 1875 brought to a climax the production of bunches of Grapes for size and weight, Mr. CURRIER, Eskbank, and Mr. DIXON, Dumfries, each brought a bunch of White Nice, about 26 lb. weight, the Eskbank one the heavier; and Mr. HUNTER, Lambton Castle, brought a bunch of Black Hamburgh fourteen pounds in weight.

The very fine exhibits of plants and fruits, particularly the latter, at the two previous International Shows had given a wonderful impetus to the erection of hot-houses all over the United Kingdom, and there was a marked improvement in the cultivation of plants and fruit, so that at the 1875 Exhibition, marvellous productions, particularly of Grapes, were brought from many parts of England, Scotland, and Ireland, Scotland still keeping the lead in Grapes, the Earl of STRATHMORE and Mr. JOHNSTON, his gardener, carrying off the chief prizes. The years immediately preceding and succeeding this were signalled by the holding

of horticultural exhibitions at Carlisle, Belfast, Liverpool, and London, all of which were satisfactory exhibitions of skill in horticulture.

The improvement that has taken place in the exhibiting of vegetables dates from about this time, and has resulted in bringing vegetables to the high degree of perfection they possess at the present day. About this time a further development took place, as observed in the huge establishments for growing hothouse fruit for the million belonging to Messrs. ROCHFORD, Mr. PETER KAY, and others.

The International Exhibitions of 1882 and 1891 no longer existed for the sole privilege of the gardeners to squires and noblemen. Cheap hothouses were now within the reach of the working man, who used them for a pastime. The grafting of Apple-trees on to dwarfing stocks and the double grafting of certain varieties of Pears gave the possessors of very small gardens the privilege of growing very fine fruits in the second year after planting. One very marked advance in horticulture was seen at these two last International Exhibitions in the immense number of exhibits of hardy fruits; and unquestionably these exhibits resulted in a very large quantity of fruit-trees being planted in the North, and in creating an unprecedented interest in the growing of hardy fruits. Yearly exhibitions of hardy fruit at the Crystal Palace gave a similar impetus in the South; and the exhibitions of Apples and Pears in November for years past at Belfast have caused a great deal of land in Ireland suited to fruit-production to be planted with fruit-trees. The splendid collections of Apples and Pears and of fruit generally at the Cork Exhibition last year, was a revelation to most of those who visited it.

It is claimed then that these great horticultural exhibitions, amongst which the International Horticultural Exhibitions held in Edinburgh have taken a leading part, have each had a direct influence in promoting the enormously extended advancement of horticulture in these countries.

The proposed International Exhibition in 1905 will be held fourteen years after the last, and in that time gardening has undergone important changes and improvements. The pleasure and ornamental gardens are no longer confined to a very limited formalism, but extend into the home woods, and at the same time great numbers of ornamental trees and shrubs and flowering plants have been laid under contribution, making every portion of a long walk or drive in the woodland, or by river or pond, a never-failing enjoyment.

The flower and kitchen gardens are strictly for utility, for the production of the best and most suitable objects for decorating apartments, &c., and for the delectation of the dinner-table.

Owners of gardens, commercial gardeners, and professional gardeners, it is hoped, will feel that the time has come when another big effort should be made to bring together at an international exhibition in the Waverley Market, Edinburgh, in the autumn of 1905, the best of everything up-to-date in horticulture.

The Royal Caledonian Horticultural Society, in order to make this effort a complete success, propose to offer a large number of

valuable prizes in all the varied sections connected with horticulture, including a very handsome prize from His Majesty the KING. The Council think that at least fifteen hundred pounds will be required for prizes to carry out their aim, and they make therefore an earnest national appeal to ladies and gentlemen, possessors of gardens, gardeners, and all interested in gardening, for subscriptions to the prize fund, payable to Mr. P. MURRAY THOMSON, Treasurer, 5, York Place, Edinburgh; or Union Bank of Scotland. Acknowledgment will be made by the Treasurer.

ROYAL HORTICULTURAL SOCIETY.—The next meeting will be held on Tuesday next, November 10, in the Drill Hall, Buckingham Gate, Westminster. A lecture on "The Advantages and Evils of Size in Flowers, Fruits, and Vegetables" will be given by Mr. E. T. Cook at 3 o'clock.

— At a general meeting of the Royal Horticultural Society held on Tuesday, October 27, thirty new Fellows were elected, making a total of 1,236 elected since the beginning of the present year.

— The following dates have been provisionally fixed by the Society for 1904, but are liable to alteration on account of the uncertainty of the new Hall opening and other contingencies: Jan. 5, 26; February 9, 23; March 8, 22; April 5, 19 (National Auricula and Primula Society's Show); May 3, 17 (Royal National Tulip Society's Show); Temple Show, May 31, June 1, 2; June 14, 28; Holland House Show, July 12, 13; July 26 (National Carnation and Picotee Society's Show); August 9, 23; September 6 (National Dahlia Society's Show); September 20 (National Rose Society's Show); Fruit Show, October 4, 5, 6; October 18; November 1, 15, 29; December 13.

UNIVERSITY OF LONDON: LECTURES IN ADVANCED BOTANY.—Mr. A. D. HALL, Director of the Rothamsted Experimental Station, gave his fourth lecture on "The Relation of the Composition of the Plant to the Soil," at the Chelsea Physic Garden on November 3. The lecture dealt with the theories of manuring which have been based upon the composition of the plant. It was first of all shown that the plant appears to exercise a selective action upon the soluble materials contained in the soil, since these are not present in the plant in the same proportions as are found in the soil. This selection depends upon the fact that although everything enters the plant by solution, the living cells utilise some but not all of the substances; whereupon the non-withdrawal of the latter from solution in the sap prevents their further entry from the soil. The first scientific theory of manuring is due to LIEBIG, who laid down two principles—that the growth of a crop will be determined by the amount of any one necessary constituent which falls below the minimum necessary for full development; that a full crop can be grown by supplying the soil with the same materials as are normally contained in the ash of such a crop. The latter statement aroused a prolonged controversy as to the necessity or otherwise of nitrogenous manuring. Mainly through the Rothamsted experiments, it was demonstrated that our ordinary plants are dependent on supplies of combined nitrogen in the shape of manures, and are unable to fix and utilise the free nitrogen gas of the atmosphere. Later it was shown that the leguminous plants afford a partial exception to this general law. Even taking into account the nitrogen, the composition of the plant is of little service as a guide to its manuring, because there are peculiarities in the habit of growth of each plant which may render it specially dependent on a large supply of one

constituent, or, on the other hand, able to satisfy its needs from the great reserves always present in the soil. Taking Wheat as an example, the crop is found by experience to be chiefly benefited by nitrogenous manures, although the quantity of nitrogen withdrawn from the soil is not large. On the other hand, the analysis of Turnips would indicate that the manure should be markedly nitrogenous and potassic; whereas it is now well known that they chiefly require phosphatic manures. Indeed, the constituent that is sparingly present in the plant is often the one which the plant finds a special difficulty in obtaining, and most requires to be furnished as manure. Experiments alone can decide upon the most suitable manuring for each plant; but the fallacy of supposing that the proper method consists in adding to the soil just those things which the plant takes away, though long since abandoned for farm crops, is still rife in horticulture, because of the absence of systematic experiments on the manurial requirements of garden crops. To a certain extent the composition of the ash of a plant will vary with the composition of the soil in which it grows, so that it has been suggested that a better idea can be obtained of the special deficiencies or richness of a soil by analysing typical plants grown upon it rather than by analysing the soil itself. Mr. Hall proceeded to compare the analyses of the ash of the Wheat grown upon certain of the Rothamsted Wheat plots with the manuring and with the corresponding analyses of the soil. The Wheat-grain possesses a very constant composition, but the straw shows variations which reflect the known history and composition of the plots. However, the fluctuations due to manuring are more palpable in the soil analyses than in the ash analyses. Similar analyses were given of Oats grown in pots containing different soils, but again the soil analysis would afford a better guide to the treatment of the soil than could be obtained from the analysis of the ash of the plants grown in it. A comparison, however, of the ash of Mangels grown at Rothamsted with the soil of each plot would seem to indicate that they form a more suitable test-plant, and that the variations in the potash content of Mangolds gives a better index of the requirements of the soil as regards potash manures than does a soil analysis. By selecting suitable test plants it may be possible to use the plant to analyse the soil, but Oats, which have been chiefly tried hitherto, are not well adapted to the purpose, showing too little variation in the composition of their ash. There will be no lecture on November 10; the next, on November 17, will deal with the Wheat-crop, and discuss the factors upon which depend high quality in Wheat.

MR. THOMAS LEWIS.—The many friends of Mr. LEWIS, representative in South Wales for the firm of Messrs. JOHN WATERER & SONS, Ltd., Bagshot, and who was formerly with Messrs. W. CLIBBRAN & SON, will learn with deep sympathy of the bereavement he has sustained in the death of his wife. Mrs. LEWIS had been married little more than a year, and died on October 29, at Fair Oak House, Roath Park, Cardiff. Her remains were interred at Ealing on Monday last.

BEAUTIFUL FLOWERING TREES AND SHRUBS.

—Just as gardeners and amateurs will be thinking of forming new or adding to old shrubberies, Mr. JOHN WEATHERS has issued a handy little book which will be of service to them. It is published by SIMPKIN, MARSHALL, HAMILTON, KENT & Co. It contains details concerning soil and situation, planting in various situations, and other cultural directions. An alphabetical list is then given of the more beautiful and interesting trees and shrubs. This list seems compiled with care and judgment, is "up-to-date," and is supplemented by an Index. There are over thirty coloured plates, some of which are very

good, as for instance the representation of the heaths and of the autumnal foliage of *Amelanchier canadensis*, whilst others are not so successful and are somewhat incongruous in colouring, as plate 21, and in the association of plants of widely different character on the same plate as on plate 32. In such a book it is of course necessary to exercise rigid selection, and each person's selection would be more or less different from that of his fellow. For instance, for various reasons we should have inserted *Colletia spinosa* and *Citrus trifoliata*. Making all allowances for differences of taste, we can cordially commend this little book to the notice of amateurs.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—A grand concert in aid of the above Institution will be held in the Constitutional Hall, Chertsey, on Thursday, November 12, 1903. Tickets: Reserved and numbered, 3s.; unnumbered, 2s.; back seats, 1s. Doors open at 7 P.M. Commence at 7.30. Carriages at 9.45. Early door, tickets only, 6.45. Cheques may be made payable at the Chertsey Old Bank, and tickets obtained of the Hon. Secretary, A. J. BROWN, F.R.H.S., Jessamine Cottage, Chertsey.

CHRYSANTHEMUMS AT REGENT'S PARK.—The Royal Botanic Society has a collection of Chrysanthemums now in bloom in the large conservatory, and invites an inspection of the flowers.

ESSEX COUNTY COUNCIL SCHOOL OF HORTICULTURE.—The prospectus of the County School of Horticulture of the Education Committee of the Essex County Council for 1903—4 describes in the following terms the objects of the work undertaken:—"The aim of the County School of Horticulture at Chelmsford is to impart sound elementary instruction in the best methods of cultural treatment, based upon a knowledge of the structure and physiology of plants. The school is organised to give courses of systematic laboratory and garden instructions to two kinds of pupils. 1. To pupils who are unable to attend the school for more than three or four weeks at a time; and 2. To pupils desirous of obtaining a full year's course of continuous instruction. The classes meet daily for lectures, demonstrations, and practice."

ST. BARNABAS, SUTTON, SURREY, AND DISTRICT HORTICULTURAL SOCIETY.—Mr. J. W. BARR, of the Ditton Nurseries, Surbiton, and King Street, Covent Garden, gave an interesting lecture on "Hardy Perennials, and Borders in which to Grow them," at a meeting of the members held on Tuesday, October 27. The reading of the paper was listened to with much interest, Mr. BARR furnishing hints and suggestions on the grouping and blending of the colour of flowers and foliage of varying tints and forms. He advised, in the course of his remarks, that every gardener and gardening amateur should keep a notebook, in which to record his observations of the habits of each of the plants grown in his borders, size, shape and shades of colour of flowers and foliage, time of flowering, &c.

MANUFACTURED TOBACCO.—There are various methods of finishing off tobacco for the market—the "Bird's-eye" owing its peculiar appearance to the application of a weak solution of sulphuric acid; another means is by the use of liquorice. We learn from Palermo that Sicily produces wild liquorice to the extent of about 1000 tons annually, a quantity that is not sufficient for the requirements of the juice manufacturers, who import the roots from Turkey and Greece—last year to the extent of 4000 tons. One ton of juice is made from 6 tons of roots—the juice being employed in the manufacture of tobacco; but for this purpose the more bitter root from Asia Minor appears to have advantage over the Sicilian, which appears to affect the keeping quality of the

tobacco. Catania, the principal seat of the liquorice trade, exports juice to the amount of between 300 and 500, and Messina from 100 to 150 tons annually. And all of this comes finally into the market in manufactured tobacco!

A GUIDE TO THE BOTANIC GARDENS, SYDNEY.—This is the first Guide to these gardens that has been issued, and it is drawn up by Mr. J. H. MAIDEN, Director and Government Botanist. We read that "only labelled plants are referred to, as the inclusion of others would be inconvenient to the public. Extensive alterations are pending or in progress, necessitating the removal and addition of plants. Endeavour has been made to strike the mean between a discursive guide, with an absence of details, and a mere catalogue of plants." The author's purpose appears to be satisfactorily accomplished, and his book is increased in value for the visitor by the addition of a plan of the gardens. It will not be forgotten that our old correspondent, Mr. CHARLES MOORE, was long connected with the Sydney Botanic Gardens, where his best work was done, before Mr. MAIDEN succeeded to his position.

DÜSSELDORF.—A large international horticultural and agricultural exhibition is being organised at Düsseldorf, the garden city on the Rhine. The exhibition will be opened in May next, and is under the patronage of the CROWN PRINCE OF GERMANY, who will perform the opening ceremony. The Ministers of Trade, Public Instruction, Agriculture, and Finance, will hold the post of Presidents. The exhibition will be one of the most complete of its kind ever held, and every effort is being made to render it thoroughly representative. A notable feature will be the arrangement of the various groups of plants, fruit, and vegetables, showing, in connection, their respective methods of cultivation and treatment, and the progress of scientific knowledge. The social and educational aspects of horticulture will not be overlooked, and there will be a section devoted to specimen gardens for workmen and children. A very important trade and industrial section will also be included, which will comprise exhibits of all the implements, tools, and utensils necessary for the carrying on of agriculture, &c. It may be remembered that an important trade and art exhibition was held at Düsseldorf last year, and was a great success. The city is admirably adapted for the purposes of an exhibition. The beautiful grounds, situated on the banks of the Rhine, rising in terraces, are peculiarly well adapted for the purpose of an horticultural and agricultural exhibition. Anyone interested in the exhibition may obtain full particulars of Herr Hess, 10, Wilhelmsplatz, Düsseldorf, Germany.

POT-WASHING MACHINE.—Among the numerous contrivances exhibited at the Milwaukee Convention of American Florists was a pot-washer, exhibited by C. E. FINLEY, of Joliet. This is described as a most efficient and non-expensive machine. We trust we may soon see it in operation here.

FOREIGN CHRYSANTHEMUM SHOWS.—The ever-popular favourite seems to be making rapid progress on the Continent. The French National Chrysanthemum Society will hold its annual show and conference at Lille on November 6. The National Horticultural Society of France held one in the large green-houses, Cours la Reine, Paris, on the 4th. Others are announced to be held at Fontainebleau, Bordeaux, Troyes, Orleans, Toulouse, Blois, Chaumont, Valenciennes, Pau, Strasbourg, Geneva, and Cologne.

PUBLICATIONS RECEIVED.—*Report on the Natal Botanic Gardens and Colonial Herbarium.* From July 1, 1902, to June 30, 1903. By J. Medley Wood, Curator. Reports a fairly favourable season; the winter promises to be a severe one. Seeds of the Victoria regia,



FIG. 135.—*ILEX AQUIFOLIUM* VAR. *ALTACUBENSIS*. FROM MESSRS. CLIBRAN'S NURSERY. (SEE P. 316)

received from Kew, germinated and flowered. An illustration of the new Herbarium is appended to this report, and various useful notes on certain plants cultivated in the Gardens.—*Journal of the Department of Agriculture of Western Australia*, August. Contents: Insect and Fungoid Pests (continued), by A. Despeissis; Report on Maize and Potatoes grown at Hamel, S.W. Railway; *Zamia* Plant, Garden Notes, &c.—*Bulletin of the Department of Agriculture, Jamaica*. Edited by Mr. W. Fawcett. August. Contents: Cocoa, III.; Soil Temperature, Cane Varieties, Insect Pest of Sweet Potatoes,



FIG. 136.—*HODGINS' HOLLY* (*I. AQUIFOLIUM* VAR. *HODGINSII*), FROM MESSRS. CLIBRAN'S NURSERY. (SEE P. 316)

Rice in U.S.A., Story of the Papaw.—*The Queensland Agricultural Journal*, July. Full, as usual, of notes and short papers on crops, dairying, orchard work, horticulture, and tropical industries.—*Thirty-fourth Annual Report of the Fruit Growers' Association of Toronto*, 1902. "Speaking generally, distinct advances have been made." During the spring many organisations were formed throughout the Province under the name of Local Fruit Growers' Associations. To these Associations were sent experts, who gave instruction in orchard management. The results were very satisfactory. The Report includes some useful papers on horticultural matters.

THE CUMBERLAND LODGE VINE.

[See Supplementary Illustration.]

WHEN a huge Vine, literally one of the largest in the kingdom, and planted 125 years ago, gets to be over 100 years old, it is no matter for surprise if it should show considerable evidences of degeneration. That in its day the grand old Vine at Cumberland Lodge, Windsor Great Park, has been immensely productive, and carried splendid crops of bunches of the true old Hampton Court Black Hamburg variety, there can be no doubt. A few years since it had so far deteriorated that its bunches, though very numerous, ranged in weight from but 6 ounces to 8 ounces each, the berries being small also. It is therefore all the more surprising that in its great age it should have been found capable of renovation; yet such has proved to be the case, as anyone visiting the Vine can see for himself. Not only does the Vine show in its wood and leafage great recuperative force, but of its some 750 bunches not one is below a pound in weight, whilst many reach to a pound and a half, or heavier, the berries large and finely coloured, and showing fruit fit to place on any gentleman's table. So much for what effort at renovation can accomplish. Those who have a copy of Mr. A. F. Barron's book, entitled *Vines and Vine Culture*, new edition, will find at p. 50 the reproduction of an illustration of the Vine as it also appeared previously in our columns, October 21, 1874. On comparing the pictures it will be seen that the brick flues in the earlier illustration have disappeared, and have been replaced by hot-water-pipes, which run quadruply along the front of the house. The removal of these flues has thus left the floor of theinery at liberty for treatment. The stem in its picturesque form still stands out from the front of the house now, as it did when the earlier portrait was taken. Theinery however is of the same dimensions, viz., 138 feet by 20 feet, giving a roof area of over 2,800 feet, which is, by-the-bye, some 300 feet in excess of the roof area of the famous Hampton Courtinery; and the Windsor Vine is no doubt the largest with vertically trained rods in the kingdom. Pictures unfortunately quite fail to do justice to such a grand old Vine as this one is and the splendid crop of fruit on it; they especially fail to give an adequate idea of the great length of the house. Because it is not desired to check the recuperation which has now been so well begun the crop of bunches is as yet a moderately thin one. Once the full vigour is restored the number of bunches may be greatly exceeded, although it will always be the aim of the Frogmore authorities under whose control it is, to secure first-class quality rather than a distressing quantity.

That the main roots of the Vine are far out of reach for treatment there can be no doubt. For that reason an effort is devoted to the development of new and fibrous roots close home. Inside, where a good coating of turfy-loam with bone-dust has been added, after some of the surface soil had been removed, new roots have been formed in great abundance; even quite close to the huge main stems new roots are found. To this dressing in part, as well as to the free use of the saw and knife, by which a somewhat severe thinning was given to the Vine, the process of

renovation and of improvement now so evident, is due. The result shows that, properly treated, even the oldest of Vines may be found capable of restoration to vigour and cropping.

In the front wall, for a length of some 40 feet, apertures have been made and filled with turf-

week, probably not more than ten see the far finer one at Windsor. The better known Vine would no doubt, equally with its offspring at Windsor, respond to suitable treatment. Not only should the flagstone floor of the vinery be removed, so that practically a new border might be made, but

HABENARIA CARNEA.

THE beautiful specimen of this terrestrial Orchid, shown in fig. 137, has been cultivated in Mr. H. J. Elwes' garden at Colesbourne, near Cheltenham. It was shown at a meeting of the Royal



FIG. 137.—REMARKABLE SPECIMEN OF HABENARIA CARNEA, CULTIVATED IN MR. ELWES' GARDEN AT COLESBOURNE

sods. In time a new border will be built up close to these openings, and new roots formed outside as well as within. Were this Cumberland Lodge Vine as accessible to the public as is the older one at Hampton Court, no doubt we should see many paragraphs in the general papers devoted to its praise. But whilst at Hampton Court 10,000 persons may see the old Vine in a

something might also be done to assist in the formation of new roots outside. Then, with ample pruning and attention and the enlargement of the houses so that the public could see the Vine from a corridor with a glass partition (as the bunches now get smothered with dust) there is no reason why this grand old favourite may not enter upon a new lease of vigour and productiveness.

Horticultural Society last year, and was given a Cultural Commendation by the Orchid Committee. At that time the plant bore three flower-spikes, but this year, as the photograph shows, there were eight extra strong spikes! This species was first illustrated in the *Gardeners' Chronicle*, December 19, 1891, from a plant which flowered at Kew. It is a native of Singapore, and there,

fore requires a warm atmosphere. Not only are the white flowers very attractive, but the foliage is covered with small white spots, and is very effective. Both qualities are well portrayed in the lovely specimen now illustrated.

PLANT PORTRAITS.

COLEUS THYRSOIDES.—*Revue Horticole*, October 16. See *Gardeners' Chronicle*, January 19, 1901, pp. 39 and 40.

STRAWBERRY SENSATION.—A medium early variety, distributed by Messrs. Vilmorin, Andrieux & Co. Fruits oblong truncate; of good quality and easily propagated. *Bulletin d'Arboriculture*, &c., October.

ROSE MDLLE. JEAN PHILIPPE TEA, AND **ALISTER STELLA GRAY NOISSETTE**.—*Journal des Roses*, August.

PEACH ROUGE DE MAL.—A variety that ripens in the Southern United States in May, but in our latitudes not till July; a free stone variety. *Bulletin d'Arboriculture*, &c., September.

HIPPEASTRUM IGUAPENSE, Wagner (NEAR *H. BREVI-FLOREM*).—Leaves 20 cent., oblong acute, tapering to a long stalk; flowers three or four to an umbel, pendulous, funnel-shaped, white with reddish-lilac stripes. *Illustrierte Garten Zeitung*, August, 1903.

HOME CORRESPONDENCE.

A GARDENERS' ASSOCIATION.—When the Gardeners' Dinner Committee met on the 27th ult. it was then thought the ultimate gathering was taking place. But after the required business had been transacted, I was authorised to read to the committee a letter written by that estimable gardener, Mr. W. H. Divers, of Belvoir Castle, who in it urged the committee, prior to disbanding, to consider the desirability of forming for the United Kingdom a Gardeners' Association. The letter was based on the one Mr. Divers had previously sent you, and which was published in the *Gardeners' Chronicle* of the 17th ult. It invited the consideration of the subject named by the Dinner Committee, with a view to the ultimate formation of such an association. The Dinner Committee regarded an expression of opinion coming from so excellent and well-known a gardener as Mr. Divers as worthy of serious consideration and discussion, and therefore instructed me to convene the members for such consideration on the 15th of next month. In the meantime, I have invited Mr. Divers kindly to set out in a series of suggestions his views as to the objects of such a gardeners' association, and the kind of work it might be expected to undertake. It has been specially stated that nothing in the least antagonistic to any body or person is in view. Rather, as I gather, the primary object is to help to raise, socially if possible, the status of the gardener, and to put the vocation on a higher plane in public esteem than it now enjoys. That is very good. But other gardeners than Mr. Divers have views also, and I shall be very glad if any desirous of doing so would kindly embody those views as to the desirability of forming a gardeners' association in clear-cut, crisp suggestions, brief and well defined, and send them to me, so that it may be possible to place them in compact form before the Committee when the meeting takes place. From one direction orally have come suggestions to this effect, that the time has arrived when all young gardeners whilst serving under "heads" should subject themselves to the German system of having duly prepared credentials, which should have entered on them by respective head-gardeners the times of service under them, departments, labour, character, and general efficiency. Such credentials, entered and certified by each "head" served, should prove to be first-class passports to other positions, and finally to headships. That is in any case one suggestion which may be worthy of consideration. I may state that whilst the Dinner Committee will readily accede to the wishes of those who desire to see a gardeners' association formed, so far as relates to putting the matter in training, yet that body realises that it holds no mandate from the Gardening community to deal with the subject. It will, I can have no doubt, having considered the various suggestions put forth, determine whether they are sufficient to justify further action. If so resolved, then the next course no doubt would be to convene a gathering of gardeners at some not remote date,

when the rough draft of a scheme could be submitted, and if agreed to the association should be by vote definitely formed, and officers and committee elected. Then the matter would be in the hands of the members of the association, and no one else. I do not know how far all the members of the Dinner Committee may care to be associated with the object aimed at, although I think most of them would; but I am sure they would not arrogate to themselves any special authority, and I may even venture to say that, with a view to obtain the best possible advice and assistance, that should any gardeners specially desire to attend the committee meeting on December 15, they would be heartily welcomed. The time and place of meeting shall be later published. *A. Dean, Secretary.*

"THE BOOK OF THE PEACH."—As the author of *The Book of the Peach*, as well as a contributor of articles on practical gardening, &c., to the *Gardeners' Chronicle* during the last thirty years, I ask permission to point out that the remarks made by the writer of the thirty-eight-line notice of *The Book of the Peach* which appeared in the issue of the *Gardeners' Chronicle* for October 17, p. 270, are incorrect, inasmuch as there is nothing to be found in the method of procedure advocated in the 113 pages constituting the book to justify the remarks made by the writer of the notice in question. Moreover, appearing in such an influential paper as the *Gardeners' Chronicle*, they are calculated, if allowed to pass unnoticed, to damage the sale of *The Book of the Peach*, as well as to injure the reputation of the author (in the minds of new readers of the *Gardeners' Chronicle*) as a practical and successful fruit-grower, as was amply demonstrated year after year on the exhibition tables at the Crystal Palace and leading provincial fruit-shows during the twenty-five years that he had the honour to preside over Longford Castle gardens. The words in the review complained of are (after the assertion that "the work is well written and contains much valuable matter")—"At the same time it is evident that the author's experience has been gained chiefly where the subsoil was amply drained naturally" (this assumption is quite wrong, seeing that the author had to provide good drainage for Peach and other fruit-trees planted by him in Longford Castle gardens); adding, "for were we all to follow his directions as regards drainage, the results would be most disastrous, as the maturation of the shoots could not be perfected." I invite the reviewer to quote passages from *The Book of the Peach* in justification of his assertion, and to give chapter and verse—that is, paragraph and page—in doing so. The reviewer's remarks regarding "the arrangement of the roots of trees with a slight inclination downwards in planting," as advocated by me at p. 54, are inconsistent with his own remarks made a few lines higher up in the same paragraph. He quotes a sentence without giving the context. There is no use in making a statement unless the writer is prepared to justify it when called upon to do so. In the case of a reviewer it is incumbent on him to quote the passages there and then which in his opinion call for and justify his criticism. *The Book of the Peach*, I may be allowed to say, has been most favourably reviewed by the leading "dailies" and "weeklies" in England, Ireland, and Scotland. It is customary in reviewing a book to state the number of pages which the book contains, whether it is illustrated or not, to quote a passage here and there, giving the pages from which the passages are quoted, in order to give the reader an idea of the contents of the work under notice, commenting thereon if necessary, but always giving the context and not isolated sentences. The writer of the notice of *The Book of the Peach* has ignored all the above-mentioned points. In conclusion, I may be allowed to say, by way of showing that no essential point in the cultivation of the Peach has been overlooked in *The Book of the Peach*, that among other things it contains chapters on the shape, size, and aspect of Peach-houses, and on their construction and heating, on ventilation, suitable composts, making the borders (including drainage for the trees, and which is referred to at pages 32, 34, 35, and 93), planting, training, and pruning of the trees, in

the first, second, and subsequent years; atmospheric moisture, atmospheric temperature, setting the blossoms (on early forced trees), watering the borders (indoors and outdoors), disbudding, thinning the crops, packing Peaches for market and otherwise, Peach-trees in pots, Peach-growing for market, Peaches on the open walls, Peaches (early varieties) as half-standards and bushes in sheltered positions out-of-doors, diseases, insects, &c. I should like also to say that *The Book of the Peach* is freely illustrated, and that the roots of trees treated as described therein will not "require being lifted so as to keep the feeders near to the surface." The above-mentioned particulars the reviewer might have supplied. I do not wish to review my own book, but simply to correct what I consider to be erroneous statements. *H. W. Ward.*

THE RECENT GARDENERS' DINNER.—To the Committee that carried through so satisfactorily that great and successful gathering, the best thanks of everyone who was present are, I feel sure, sincerely and heartily accorded. Not the least satisfactory result of the voluntary labours of the Committee is that the balance of accounts is on the right side, and the information that the Committee have given the residue to two such excellent Institutions, will meet with general approval. It is sometimes said that in this life there is no pleasure without a tinge of disappointment and sorrow. In this instance the tinge, and the only tinge that I am aware of, was occasioned by the absence of those two great friends and supporters of gardeners and gardening, Mr. Leopold de Rothschild and the Very Rev. Dean Hole; and also of those two old and highly-esteemed friends, Mr. J. Hudson and Mr. J. Smith (both of whom had served on the Committee), the former through illness, and the latter by the ruthless hand of death. *T. Challis, The Gardens, Wilton House, Oct. 30.*

CYPRIPIEDUM POTTED IN LEAF-MOULD.—About four months ago I potted a plant of *Cypripedium*, the result of a cross between *insigne* Chantini × *selligerum rubrum*, in a compost consisting of ordinary leaf-mould, two-thirds, and silver-sand, one-third, and crocked the pot as I would a pot for any kind of greenhouse plant, bringing the potting materials to within 1 inch of the rim, and filled that space with heads of sphagnum-moss. No more water was afforded than would keep the moss alive. This plant has made rapid growth, and is at the present time a good example. *J. Herdman, Scampston Hall Gardens, Malton.*

TUBULAR BOILERS.—Will Mr. R. C. Fletcher kindly say what is the number of feet of 4-inch pipe heated? I have always understood that these upright tubular boilers, though very economical, were only suited for quantities of 4-inch piping exceeding, say, 400 feet. *E. D'Olier.*

SOME CURIOSITIES OF THE VEGETABLE WORLD.—I beg to enclose some curiosities of the vegetable world. The strange features of these freaks are the cores and pips in the fruits that have not previously had a flower bud in the ordinary way. [We find no core in the adventitious fruit. Ed.] I have not seen anything like them before, so shall be glad to know if they really are so uncommon as we suppose they are. [No.] The Nectarine growths are also unusual to produce fruits so freely on the unripe present season's growth. We also have Plums flowering and fruiting in the same way. Victorias have flowers and green and ripe fruit on the same trees, which was the case a few years ago. I suppose the unusual sunless, wet weather is solely responsible for these strange irregularities. *J. H. Goodacre.* [Mr. Goodacre sends us some Pears in which a secondary fruit is growing from the stalk of the first-formed Pear. The first Pear is normal, but the secondary ones are mere outgrowths from the stalk and present no trace of floral organs, eye, core or seed. The appearance is very peculiar, but as it is well known that the outer edible part of a Pear or Apple is not the fruit at all, but only a dilatation of the stalk or branch, the fact of its sub-division is not so extraordinary after all. The true fruit, in a botanical sense, is the core, which becomes embedded in the swollen stalk. The formation of

Nectarines on the young wood is an attempt to anticipate matters. Curiously enough the fruits, though on the young wood, are nevertheless borne on short spurs. Ed.].

SPORTIVENESS OF GRAPE VINES.—The mystery that surrounds the origin of many of our best Grapes leads one to suppose that sports may have played their part in the matter. You say, p. 305, that "as far as is known not one first-class Grape has been obtained from bud variation," and it would be interesting to know how far this is borne out in fact. We have several distinct varieties of Black Hamburgh, all with precisely the same flavour, but in which form of berry and of bunch vary greatly, and these would appear to be fixed sports. The same thing has occurred with White Muscats. A parallel to Mr. Almond's case, as recorded last week, occurred with me many years ago. I am positive that no grafting or budding had been done. The facts are these: I bought and planted Muscat of Alexandria vines, sufficient to fill a house at Livermere Park. After making the first season's growth, I cut these down to within 1 foot of the border. The second year I pruned to the bottom wire, 5 feet from the border, and two leading stems were taken up from each vine at this point. In the case of one vine, one stem produced normal Muscat of Alexandria Grapes, fairly free-setting, and with typical berries; the other stem developed into Canon Hall Muscat, with all that variety's characteristics as regards bud setting, form of bunch and of berry—in fact, Canon Hall pure and simple. This continued year after year without fail, and as far as I know still continues. Many gardeners and others saw the Vines during this period and could bear me out as to the facts if necessary. A similar occurrence took place here this year. A Vine of Black Hamburgh gave us one bunch with berries double the normal size and different in form to all the rest on the Vine. The spur which produced this carried two laterals, each of which bore a bunch, one being absolutely normal, i.e., similar to all others on the Vine, except the one noted. No one seeing these on the Vines could possibly doubt that the one lateral had sported, and I shall watch with interest whether a rod run up from this lateral will continue the sport. Nothing was done, nor could be done, to aid this particular bunch in any way beyond what the others also received in the way of attention, and the only explanation must be that of sportiveness in the Vine. J. C. Tallack, Shipley Hall Gardens, Derby. [The above remarks seem to confirm our opinion that Canon Hall Muscat originated as a sport, and not, as suggested in *Vines and Vine Culture*, as a seedling. Ed.].

HEAVY CROPPING OF NORTHERN STAR POTATO.—We hear so much now about the famous Northern Star Potato that it may interest some of your readers to know that at Woolmer Green, a little village in Hertfordshire, I have grown these Potatos for the last two seasons, and this year dug one root having 136 tubers, which weighed just over 16 lb. R. C. F.

AGAVE ROMANII.—This very distinct plant is but very little known, as there were only half-a-dozen of them in the first place when distributed many years ago. It was raised by the late M. Louis de Smet as a cross from A. filifera and A. xalapensis. It is dwarf and stubby, the leaves dark-green with a broad margin of brown on the edges, and with one sharp spine at the end. I have only seen one specimen of it, but I consider it a very beautiful variety. J. C., Didcot.

SWEET CHERRIES.—Those who intend to plant Cherries this autumn should plant some or all of the following varieties, viz., Early Rivers, a good flavoured, black-fruited, early variety, and heavy bearer; Knight's Early Black, Black Tartarian, one of the best, which comes into use rather late, the fruits large, in colour black, flesh firm, therefore a good traveller; Kentish Bigarreau and Napoleon Bigarreau, these two being very sure and heavy croppers; Elton Heart, Governor Wood, the latter valuable for its earliness; Florence, late fruiting; Frogmore Early Bigarreau, very early, a valuable sweet fruit, but the flesh too soft to travel well. Of the Dukes—May Duke, Late Duke and Archduke—one or two

trees of each planted on a south wall afford early fruits, but for most purposes a west aspect is more suitable. The distance to plant wall-trees is 18 feet apart. If planted closer than this the roots must be shortened if growth be too vigorous. H. Markham, gr., Wrotham Park, Barnet.

CATTLEYA LABIATA AUTUMNALIS.—At Burleigh House, Epping, there is at present a fine collection of the above beautiful species in bloom, and I recently counted 255 blooms fully expanded on the various plants. Some of the scapes carry four flowers each, and all are of good size, substance, and colour. W. J. M., gr., November 2.

EXHIBITING POTATOS.—One of the chief difficulties which now necessarily follows on judging collections of Potatos is found in the comparative sameness of the tubers set up for competition. So much is this the case that if tubers of but one variety were put up under six diverse names, the judges could not determine whether these were distinct or not. In the old days of the International Potato Exhibition Potatos had greater individual character than they now have; hence experts found no difficulty in determining whether a variety was true to name or not. It is worth considering on the part of raisers of Potatos whether it is not possible to produce varieties that have distinctiveness. In that respect colour is so helpful, because it is then easy to determine whether the varieties are true to name and character or not. For that reason a collection of twelve varieties should always include four coloured, four round, and four long or kidney-shaped; then it would be pretty easy to determine their correctness or otherwise. There is oftentimes too much dislike of coloured Potatos, although the colour extends only to the skins, the flesh being indistinguishable from that of white-skin varieties. It is doubtful whether any whites have better table quality than Reading Russett or The Dean. There are now plenty of good rounds, too, and some of these should be grown to produce *bona-fide* form. The general tendency to intercross solely to obtain size of tuber and heavy crops is all very well, but in Potato-production mere size or crop does not sum up all the needs or merits of a good table Potato. When Discovery, Tim Gray and Northern Star get abundant, as they now will do, each one roundish in form and having character, some help in the direction desired will be furnished. Any good break from the production of long, flattish tubers so much alike will be eagerly welcomed. We may well hope to see Potatos more widely shown when next the Royal Horticultural Society holds a great vegetable exhibition. A.

NERTERA DEPRESSA.—There was, a good few years ago, a nice patch of this plant growing over the bottom pockets of some rock-work at Culver, Exeter, facing north and much sheltered; and since then I have seen established plants growing in small pots with Mr. Divers at Belvoir, who had it placed at the north end of some brick pits, where sunshine scarcely reached them. At The Grove, Stanmore, Mr. Odell has a fine lot of Nertera well established in the grass margins at the foot of a rocky bank, in which is planted a very fine collection of British Ferns collected at different times by Mr. Odell. The Nertera seems quite happy under the shade afforded by some tall trees at the back of the rock-bank, it being covered with its pretty orange-coloured berries. I am sure Mr. Fitzherbert will be interested to know that it does really exist in some gardens, as he mentioned, on p. 161 of the *Gardeners' Chronicle*, that he had failed to meet with it in gardens up to the present. C. J. Ellis, Warren House Gardens, Stanmore.

A NEW CASE OF APOSPORY.—Some time ago Dr. Stansfield, of Reading, reported that having layered a portion of the very comminuted crests of *Polypodium vulgare* var. *grandiceps* (Parker), he observed that aposporous prothalli were produced from the tips. The culture, however, unfortunately went wrong, and a further investigation and report could consequently not be made. Early in July in this year, however, I noticed in a pan of mixed varieties a very young seedling of the same species, the fronds of which were somewhat translucent at their tips, indicating a tendency to

that different cellular structure which distinguishes the prothallus from the sporebearing frond, while the rest of the seedlings in its company were, in this respect, normal. On July 19 I examined it again, and found that by subsequent growth translucent cordate terminals had formed closely resembling prothalli, but without the additional evidence of root-hairs or of antheridia or archegonia. The primary frond nearer the soil had attached itself freely thereto, and on carefully freeing it I found not only abundance of root-hairs but also antheridia well in evidence, thus establishing beyond all doubt spontaneous apospory in *Polypodium vulgare*. This consequently adds another British species to the list of aposporous Ferns. From the appearance of the young plant I do not take it to be the same variety above cited, upon which Dr. Stansfield induced apospory; and it is worthy of remark that in this case it has not been induced by close culture, as the pot has been uncovered the whole of the season, though under the glass of the fernery roof. What variety it is remains to be seen, as also whether this aposporous character will survive the infantile stage, although the third and fourth fronds present every indication of further development on the same lines. Our British Ferns have now afforded fourteen examples of aposporous growth and reproduction, viz., *Athyrium filix-femina* (4), *Polystichum angulare* (5), *Lastrea pseudo-mas* (2), *Scolopendrium vulgare* (1), and *Polypodium vulgare* (2), as against *Pteris aquilina* (1), and a species of *Trichomanes* (1). Amongst the vastly greater number of exotics I include *P. aquilina* in this latter list, as the discovery was made by Prof. Farlow in the United States. Chas. T. Druery, F.L.S., V.M.H.

DO VARIETIES OF CULTIVATED PLANTS WEAR OUT?—With reference to this subject mentioned in *Gardeners' Chronicle*, the issue of September 26, I send you herewith two specimens of the Ribston Pippin Apple and two of the Golden Pippin. The trees that bore them are two old trees which I found here, and which I was told were called by those names. The Golden Pippin tree is, I should say, at least fifty years old, and has a girth of 3 feet 2 inches 1 foot from the ground. It has borne an abundant crop every year but this last, when it bore none. An old resident here said it was the only time he had known it to fail. The Apples are green, not golden; but perhaps that is so because they are not allowed to remain long enough on the tree to turn yellow. This is a wind-swept place, and on the night of September 10 the heavy S.W. gale blew down a wheelbarrowful of these Apples, as well as another barrowful of other kinds. The Ribston Pippin tree is perhaps forty years old, and has a girth of 2 feet 1 foot from the ground. It is cankered all over. This year there was not a Plum and scarcely a Pear. Emile d'Heyst is the only one; it bore about a dozen fruits. But the established Apple-trees have borne their best crop during the last six years, to be almost all blown down in that gale. Last year was a bad fruit year; this year has been worse. What profit can accrue to a fruit grower in the open, on a large scale, under such circumstances, is not easy to make out! E. Bonavia, M.D. [The Ribston Pippins were large, well-developed fruits. Ed.]

ECHINOCACTUS DE LAETI.—Having a plant under the above name, I am much interested in its character, which to me is somewhat different to any other *Echinocactus* I have yet seen. I never saw one produce its flowers down the side of the plant before this, but always on the crown in the newest growth; and the flower is distinct also, the tube being very scale-like, and the flower never appeared to open fully, as in other kinds, but what I should call half open although it was of long duration, lasting quite a fortnight or more. I should consider it to belong to another genus, as it is so unlike any other I have known, and I have seen many kinds in years gone by. J. C.

HYPOCALYMMMA ROBUSTUM (The Larger Peach Myrtle).—It may interest those of your readers who admire beautiful greenhouse shrubs to hear that plants of the above-named pratty and most free-flowering New Holland shrub are

now being offered for sale by Messrs. Lemoine, of Nancy, in France. This graceful and pretty plant is a native of the Swan River and other parts of Western Australia, and was figured by Dr. Lindley so far back as 1843, in the 29th volume of *Edwards' Botanical Register* on plate 8. Its flowers are of a rosy-purple and much resemble in appearance those of the low-growing *Amygdalus nana*. It was first bloomed in this country by Messrs. Lucombe & Pince, of Exeter. Its leaves when bruised smell very agreeably of lemon. It thrives best in a compost consisting of loam and heath mould, with a little silver-sand. *W. E. Gumbleton.*

A GERMAN CULINARY FRUIT.—Round Wiesbaden, and in the higher parts, especially Cronberg-Königstein, &c., we used to have stewed a very delicious wild Pear, which seemed to be to the Pear what the Crab is to the Apple. They stewed it whole, unpeeled, and with a delicate little thin stem attached to it. It was deep in colour and very delicious. I never saw the tree that bore the fruits, and, not speaking German, could learn nothing about it. Would some of your correspondents, from this meagre description, kindly tell me through these columns the name of that Pear-tree? I am just planting a new garden, and should very much like to send for trees if I had an idea what to ask for. *Old Subscriber.*

CARNATIONS.—In reference to the review of *A Short Treatise on Carnation Growing for Pleasure and Profit* in the *Gardeners' Chronicle* of October 24, I agree with his criticism of the border and Malmaison, but I was surprised at the writer—who is evidently an expert in border Carnations—commenting on the Tree Carnation, when he is so oblivious of their habits as to say "they are grown in immense quantities, many of them in small pots with one or two main stems of blossoms"; and "that the vases of bloom exhibited by Mr. Dutton were the products of special culture, and quite beyond the means of a private gardener." Being one of the largest Tree Carnation specialists, I must inform your readers that I have thousands of young plants with four to eight long-stemmed buds fully developed on plants from this year's cuttings, which will be followed by a like number in the course of six to twelve weeks. As for the blooms being the product of special culture, it is no such thing; and of the Carnations I have exhibited at the shows this year, none were grown specially for them, being only good samples of the bloom I supply Covent Garden with throughout the year. It is a great pity to be prejudiced against the new type of Carnation which is now so popular and useful, and which can so easily be grown to perfection by gardener or amateur with very mean accommodation, and under only a low temperature. *A. F. Dutton.*

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

OCTOBER 27.—Present: Dr. M. T. Masters, F.R.S. (in the chair); Prof. Church; Messrs. Odell, Saunders, Massee, Baker, and Worsdell; Drs. Rendle and Cooke; Revs. W. Wilks and G. Henslow, Hon. Sec.

Crassula Attoni.—Mr. ODELL showed specimens of this Karroo plant of South Africa, remarkable for bearing in lieu of flowers, leaf-buds, each consisting of two pairs of minute leaves.

Begonia bi-sexual.—Mr. WORSDELL showed malformed flowers with abortive ovaries, bearing a tuft of stamens issuing from the base of the style.

Spinach failing.—Mrs. KILLICK sent plants which were sown in August, and for three years consecutively at first came up well, but subsequently turned yellow. Spring-sown Spinach never failed. It was suggested that if any grubs were present lime and soot should be used before sowing. Other growers had experienced the same thing. A deficiency of mid-day sunlight appeared to affect Spinach, as a whole bed was a total failure in an enclosed place where the sun only shone upon it late in the day.

Jasmine root hypertrophied.—Dr. MASTERS showed a specimen of root hypertrophied forming a large mass,

but no trace of insect or fungus was present. Mr. Massee observed that ants will produce a very similar result on various plants; and frost has been known to be concerned in the production of similar outgrowths.

Parsley-leaf Miner.—Mr. WILKS showed leaves infested by some grub, upon which Mr. Saunders reports as follows: "The Parsley leaves are attacked by the grubs of a fly, probably by those of the 'Celery fly' (*Tephritis onopordinis*), which they very much resemble; but the grubs of flies belonging to the same genus are often so much alike that it is impossible to distinguish between them. I have not heard of these grubs attacking Parsley before, but, as both Celery and Parsnips are injured by them, it is quite likely that Parsley may also be attacked, all these being umbellifers. The chrysalides are no doubt formed in the soil. If a crop has been badly injured by these grubs it should be pulled up, and the ground well dressed with gas-lime."

Injurious Insects.—Miss COPE, F.R.H.S., inquired for information how to destroy certain insects. Mr. Saunders' report is adjoined: "The so-called insect sent by Miss Cope is one of the 'Centipedes' (*Geophilus longicornis*). I cannot say positively whether it is injurious to plants or not, my own view being that it is not, as it belongs to a carnivorous family, and is provided with a large pair of poison-fangs, which would not be of any use to a creature feeding on vegetable substances. When found at the roots of plants, as they often are, I believe, they have gone there to feed on insects which have been attacking the roots; but they have been so often accused of injuring plants, and have been found under very suspicious circumstances, that I do not feel justified in giving a definite verdict. It is possible that when their ordinary food becomes scarce they may take to a vegetarian diet. The ordinary quick-running centipede is undoubtedly of much service in gardens in killing small insects, slugs, &c. The green insect spoken of is probably one of the *Cercopidae*, the family to which the common froghopper belongs; but without seeing a specimen it is impossible to say positively. The best means of destroying this pest, if I am right, is to shake the plants over a sheet of pasteboard or tin which has been newly painted or tarred, so as to catch the insects when they jump off the plants."

Science at Wisley.—Dr. MASTERS drew attention to the desirability of the Society utilising the Wisley Garden for scientific investigations bearing on gardening in addition to the requirements of practical horticulture. He invited suggestions from members of the Committee. It was recalled that recommendations had already been laid before the Council, but they had not seen their way at the time to consider the proposals favourably. Mr. WORSDELL suggested communications with foreign horticultural institutions to gather hints of their methods, which might be turned to account. He would maintain that the scientific director should be a broad-minded man, and not merely a specialist; one who had a good knowledge of botany and practical horticulture. Prof. CHURCH thought a start should be made in a humble way, only such instruments being obtained as the need arose for them. Mr. MASSEE mentioned the following examples of objects worthy of further investigation, which should be undertaken: the Silver-leaf disease, the gumming of Hyacinth-bulbs, as well as the investigation of the causes which render some sorts of Potatoes immune from the disease, &c.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

OCTOBER 16.—The first autumn meeting was highly successful, the room being crowded with exhibits, the quality of which was above the average.

Groups were staged by THE STONE ORCHID COMPANY, consisting of *Odontoglossum crispum* and *O. grande* (Silver Medal); Messrs J. CYPHER & SONS, Cheltenham, who had a good miscellaneous exhibit, including some fine forms of *Dendrobium Phalenopsis* var. *Schroderianum* (Silver Medal); Messrs. CHARLESWORTH & CO., Bradford, who had a magnificent display, principally of *Cattleya* and *Laelio-Cattleya* hybrids of their own production (Silver-gilt Medal); W. DUCKWORTH, Esq., Flixton, who showed a nice group, the main feature of which was *Cattleya aurea*, and the rare *Laelia Perrini* var. *alba* (Silver Medal); O. O. WRIGLEY, Esq., Bury who staged a few nice plants, including two good specimens of *Odontoglossum grande* var. *aurea*, and a finely grown plant of *Dendrobium Phalenopsis* var. *Schroderiana* *alba* (Silver Medal); E. ROGERSON, Esq., Didsbury, who had a fine collection of hybrid and other Orchids (Silver-gilt Medal); S. GRATRICK, Esq., Whalley Range, who included in a very choice collection of plants *Cattleya Dowiana* var. *Rosita*, this

being a fine form of the type, having petals and sepals of a peculiar brick-red hue, while the lip was intensely dark, with the lines of gold running through; this plant, in addition to a First-class Certificate, was voted a Silver Medal. Messrs. KEELING, Bingley, Yorks, obtained a Bronze Medal for a small but interesting exhibit. Messrs. COWAN & CO., Gateacre; and Mr. S. ALLEN, Sale, received Votes of Thanks for groups.

FIRST-CLASS CERTIFICATES.

Brasso-Cattleya *Schroderae-Digbyana* X, exhibited by E. Rogerson, Esq.

Cattleya Dowiana var. *Rosita*, exhibited by S. Gratric, Esq.

AWARDS OF MERIT.

Laelio-Cattleya Lottie (*Aclandiae* X *Trianae* Backhouseiana), exhibited by S. Gratric, Esq.

Laelio-Cattleya Adolphus (*cinnabarina* X *Aclandiae*), *Cypripedium Memnon inversum*, *Odontoglossum crispum* var. *Ed. Rogerson*, exhibited by E. Rogerson, Esq.

Dendrobium Phalenopsis var. *highburyensis*, exhibited by J. Cypher & Sons.

Cypripedium Daphne (*Exul* X *Charlesworthii*), *C. Hitchensae* var. *delicata*, exhibited by A. J. Keeling & Sons.

Cattleya X *Euphrasia* var. *inversa*, exhibited by John Cowan & Co., Ltd.

T. STATTER, Esq., Whitefield, exhibited the original plant of *Cattleya* X *Hardyana*, which has been in the Stand collection for twenty years. *P. W.*

THE THIRTY-SECOND ANNUAL CONVERSAZIONE of the CHESTER SOCIETY of NATURAL SCIENCE.

AWARD OF THE KINGSLEY MEMORIAL MEDAL AND OTHER PRIZES.

ON Thursday, October 22, Mr. G. F. Miln, F.R.H.S., was the recipient of the Kingsley Memorial Medal, Her Grace the Duchess of Westminster honouring the occasion by graciously presenting the medal. The medal is a trust, which is awarded annually by the Chester Society of Natural Science (founded by Charles Kingsley, 1871), to some person resident in the Society's district "for having contributed materially to some branch or department of natural science." For the last twenty years Mr. Miln has been a diligent and enthusiastic student of a branch of botanical science in the study of those important plants—the grasses and the cereals. By his collections and his practical activity he has contributed not only to our knowledge of the grasses of the district, but has also contributed very largely to that wonderful improvement in the cultivation of the new cereals which has been taking place with great rapidity during the last few years. This constituted, in the opinion of the Committee, Mr. Miln's first claim to the Kingsley Memorial Medal, few recipients having done more in the Society's district and in the county at large to extend our knowledge of natural science in one of its important branches.

Mr. Miln was also one of the originators of the Chester Paxton Society, and for several years has acted as their joint Secretary and Treasurer. This Society has done much in Chester and the district to encourage among gardeners and fruit-growers a more enlightened study and a better and more practical means of the cultivation of fruits and flowers.

Mr. Miln has also acted as Hon. Secretary to the Chester Society of Natural Science for a number of years, and as the membership of this Society now numbers considerably over 1,000, it may be readily seen what an active career Mr. Miln has had, and how much valuable time he has ungrudgingly given to the promotion of Natural Science, Horticulture, and Agriculture. By profession Mr. Miln occupies the responsible position as Director of Garton's, Limited, Warrington, a firm which has for the last few years produced by cross-fertilisation many new and improved kinds of cereals and roots.

In addition to the above-named award, prizes were also given for the best collection of Dicotyledonous plants of the district; and junior prizes (1) for the best collection of dried and mounted specimens of British Grasses; (2) for the best descriptive list of insects which are injurious to plants in the district in which the competitor lives; (3) for the best essay on the life-history and habits of the common house-sparrow; (4) for the best essay descriptive of the physical geography and natural features of the district in which the competitor resides.

READING & DISTRICT GARDENERS' MUTUAL IMPROVEMENT.

OCTOBER 26.—The last fortnightly meeting of the above Association was held on the above date, and upwards of 100 members were present. The occasion was the visit of a representative from the Bristol Gardeners' Mutual. Mr. J. H. Vallance was the member selected, and he chose for his subject "The Renovation of Old Vines." His paper was full of interest and of original ideas in the carrying out of the work. Minute

details were given as to the lifting of the trees, re-planting, soil, manures, treatment of the young canes, &c. Some of the methods of procedure met with adverse but friendly criticisms, and a lively and animated discussion followed.

A hearty Vote of Thanks was accorded to Mr. Vallance for his excellent paper.

In replying Mr. Vallance, and Mr. Groves, the hon. sec. of the Bristol Society, both expressed the wish that the interchanging of lecturers between the two associations would last for many years. There were two or three fine exhibits, honorary, of fruit, staged by Mr. E. Fry, gr., Greenlands; and three plants of well-grown *Clerodendron fallax* raised from seed by Mr. T. W. Exler, gr., East Thorpe.

DEVON & EXETER GARDENERS'.

OCTOBER 27.—The annual business meeting of the Devon and Exeter Gardeners' Association was held on the above date in the Exeter Guildhall. The Right Worshipful the Mayor of Exeter presided, and he was supported by Mr. P. C. M. Veitch.

The Secretary (Mr. A. Hope) read the annual report, detailing the work of the Society and setting forth its position.

In proposing the re-election of the President, Mr. Hope said the Association remembered with gratitude and affection how keen Mr. Sanders's interest had been in the Association, and in how many ways he had shown it. It was the unanimous decision of the Committee to ask Mr. Sanders to be re-elected, to which he had consented.

Mr. W. Charley seconded, and the proposition was carried with acclamation.

Mr. Mackay, in proposing the election of Mr. William Charley as hon. secretary in succession to Mr. A. Hope, who has resigned, expressed regret at the loss the Association had sustained by the resignation of Mr. Hope. The Committee felt that they were losing their best man.

BRISTOL & DISTRICT GARDENERS' MUTUAL IMPROVEMENT.

OCTOBER 29.—"Hardy Fruit Culture, Past and Present" was the subject of a lecture given before the Bristol Gardeners' Association on the above date, the lecturer being Mr. J. Basham, jun., representing the Newport Gardeners' Society. A good number of the Bristol gardening fraternity availed themselves of the opportunity to hear such an authority on hardy fruits. He gave a list of Apples, Pears and Plums which were in cultivation three hundred years ago, as also a selection of the best of the present day. Mr. Basham, sen., occupied a seat on the platform, and was cordially welcomed by his fellow-gardeners of Bristol.

NOTICES OF BOOKS.

GARDEN PESTS. By Phoebe Allen (London: Wells Gardner, Darton & Co., 3, Paternoster Buildings).

WE have here an account of insect and other pests affecting garden plants, and they are described as being brought to judgment at certain "Grand Assizes," with Lord Salisbury (Rose) in the chair; the proceedings being observed by Jean Crapaud (the toad), the aged. The writer expresses the hope that it may "not merely awaken interest among amateur gardeners in the characteristics and nature of some well-known enemies of the vegetable kingdom, but may also convey sufficient information to help the plant-lover to distinguish between friend and foe." She has done her best to verify the information given by reference to standard works, but it remains to be seen if any readers will enjoy the remarks of Mr. Anthomyia Ceparum, Lady Ichneumon, Mr. Bruchus Pisi, and other characters who pose as prisoners, witnesses, and so on according to their natures. If this pleasantry is meant for the benefit of young people we can hardly think the same of the appendix, which treats of various artificial remedies for plant pests, most of which are quite unfit for children to prepare and use. We admire the illustrations, which are many and made from nature by Dr. H. F. Bassano, though it is a pity that the comparative size of the creatures shown is not always mentioned. Thus, it is small help towards identifying the specimens to find the egg of the Cabbage-butterfly shown half the length of the creature's body, and the Potato infested with wireworms

about the size of the earwig with wings expanded. We remember that the author has written other books, so we hope that those who have appreciated her former volumes will welcome this addition to them, and not object to the mixture of fiction and facts, which to some tastes is irritating.

THE BOOK OF HERBS. By Lady Rosalind Northcote. (John Lane: The Bodley Head, London and New York.)

THE herb-garden has always seemed to be woman's special province, and the mere mention of it suggests old-time traditions and practices. Our authoress deals daintily with her tempting subject, stringing her facts together neatly, and putting in many a pretty half-forgotten legend in prose and verse. Her chapters are devoted to: The Chief Herbs used in the present time, Herbs chiefly used in the past, Herbs used in Decorations, in Heraldry, and for Ornament and Perfumes; the Growing of Herbs, Herbs in Medicine and in Magic.

This arrangement and a full index render the information easily accessible. There are plenty of illustrations from drawings and photographs, one of the latter showing the Chelsea Physic Garden. For frontispiece we see the picture of the Parkinson statue at Sefton Park, Liverpool, previously illustrated in our columns.

The book as a whole is pleasing, and should be interesting for reference purposes and occasional

planned the Horticultural Exhibition that was held at Hamburg in 1869, and by his laying-out of the Zoological Gardens of that city he inaugurated an entirely new style of German horticultural art.

NEW INVENTIONS.

BECKETT'S TREE-TIES.

IN fig. 138 is illustrated an invention by Mr. Ed. Beckett for tying trees to stakes. The strap is shown at the top of the figure, and is made of cloth and twine. When properly affixed the strap should form a figure of 8 round the tree and support. The instructions for their use are as follows:—Take the tree tie, the buckle outwards and towards the stake. 1st, Pass the end between the stake and the tree, and round the latter, *a*; 2nd, Pass the end through the loop and between the tree and the stake, *b*; 3rd, Pull tight round the tree and buckle firmly round the stake, *c*; 4th, Cut off the surplus end, *d*. It is claimed that by the use of these tree-ties no friction is possible; there are no loose parts, each is complete in itself; much time and labour are saved; a curved stem can be gradually straightened; they cannot injure the bark, but will fit any sized tree or stake. They are manufactured by Mr. E. C. Lawson, 32, Ashley Road, Hornsey Rise, London, N.

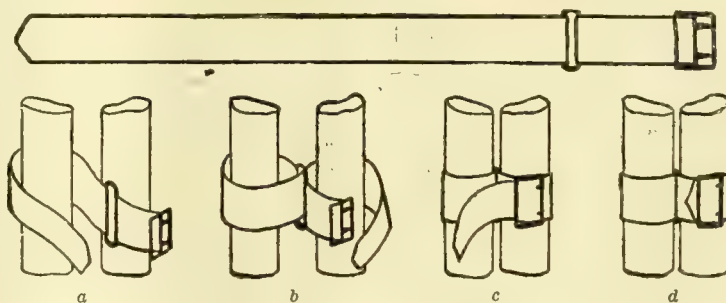


FIG. 138.—A NEW TREE-TIE.

reading; clear type and good paper help to make it acceptable. As regards the title, Lady Rosalind Northcote disarms criticism by her immediate avowal of the difficulty in defining a herb, but for culinary purposes we agree that it is "safe to say, generally, that a herb is a plant, green and aromatic and fit to eat; but it is impossible to deny that there are several undoubted herbs that are not aromatic, a few more grey than green, and many unpalatable if not unwholesome."

Obituary.

HERR F. J. C. JÜRGENS.—The death is announced (*Möller's Deutsche Gärtner-Zeitung*, of October 24), of Herr F. J. C. Jürgens, one of the most notable of German landscape gardeners. Herr Jürgens was born on August 23, 1825, at Lübeck, and served an apprenticeship in a merchant's office at St. Petersburg with great success. Circumstances, however, necessitated his return to Lübeck in 1841, and there he entered, as pupil, the business of a nurseryman and horticulturist. In 1845 he went to Hamburg, where he found ample scope for his talents. In order the better to carry out his ideas concerning landscape gardening, he purchased in 1847 an old-established nursery business near Altona. This enabled him to make various experiments respecting the effects of weather and the acclimatisation of plants in general. There are many parks and gardens in Denmark, Germany, and especially in the neighbourhood of Hamburg, that bear witness to the originality of Herr Jürgens. He

FRUIT REGISTER.

A FEW GOOD VARIETIES OF STRAW-BERRIES.

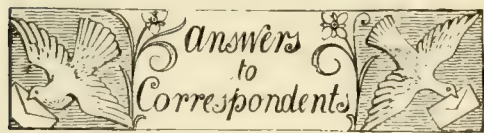
VARIETIES of Strawberries, like many of the so-called new Potatos, are becoming, like quack doctors and their nostrums, far too common, many Strawberries and Potatos being new only as regards their names. It is refreshing in a season like the present to know that many of the old standard varieties still hold their own for, as a gentleman said to me the other day, "You hardly know which Strawberry to select, good and bad are so puffed up," and in many cases the new ones are not worth cultivation. Of the well-tried varieties, the first and best are *La Grosse Sucrée*, good for forcing and growing in the open. The much-grown and lauded *Royal Sovereign* is no favourite of mine either as a forcer or for fruiting in beds. This is the only variety which as a pot-plant has mildewed at Albany; its foliage is of just the stamp for falling a prey to mildew. This year the so-called Improved *Sir Joseph Paxton* mildewed out-of-doors, and the fruit rotted on the ground whilst still only half matured; while *Sir J. Paxton* proper and *Vicomtesse H. de Thury* gave grand crops, fine in the matter of flavour, and in colour all that could be desired, while for a late variety *Eleanor* and *Waterloo* were superb; fruits of *Waterloo* weighing from 2 to 3 oz. each, and the crop abundant till the end of the month of July. These two varieties are the finest of all as late fruiters, and much better and far ahead of

Latest-of-all, which by-the-bye is wrongly named. Frogmore Late Pine is a grand Strawberry of a robust nature, but in a year like the present it has been only second-rate. This variety needs plenty of sunshine, and like all late ones should not be grown on a north border, for the fad of growing late Strawberries on north borders is a mistake. They should be afforded all the sun that they can get.

Givon's Late Prolific is a variety that bears quicker on maiden plants than Waterloo, but as regards flavour, appearance, and cropping, it does not equal Waterloo. Maiden plants of Royal Sovereign bloom very early outside with me, but have to be protected from frost, while young plants of Paxton and Vicomtesse Héricart de Thury escape late frosts; but two-year-old plants are better, as they have ample foliage to protect the blossom, and the fruit is of the finest. I have tried many of the newer varieties, but in most cases they were not equal to those which I have mentioned above. *W. C. Leach.*

TRADE NOTICE.

MESSES. William Bull & Sons, New Plant, Seed, and Bulb Merchants, of King's Road, Chelsea, have appointed Mr. George H. Sage, late head gardener to the Most Hon. Marquess Camden, Bayham Abbey, Lamberhurst, as one of their representatives.



EDITOR AND PUBLISHER.—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

ANTHURIUM WAROCQUEANUM AND PHILODENDRON ANDREANUM: *F. L.* and *O. P.* The Philodendron is a climber and the other is not.

BEGONIA GLOIRE DE LORRAINE FOLIAGE DISFIGURED: *E. B.* Some error in cultivation probably, or an irritant substance or liquid has come into contact with the leaves.

BEGONIAS: *A. C. W.* We think the disfigurement of the leaves in both instances is due to the punctures of mites, and recommend you to dip the plants in tobacco-water. It should not be necessary to destroy the stock, but if you have another house that you think would be more suitable to the plants by all means cultivate them there next season.

CACTUS DAHLIA KING EDWARD VII. *J. A.* A pretty variety of rich pink colour, with lemon ring round centre.

CARNATION DISEASED: *R. B.* The plant is affected with the fungus *Helminthosporium echinulatum*, for which there is no known cure. Burn the affected plants, and start with others obtained from a fresh source, and plant these in fresh soil. The spores are readily carried about by dew, rain, &c.

CHRYSANTHEMUM: *H. & S.* We cannot undertake to name varieties of Chrysanthemums or other florists' flowers.

CHRYSANTHEMUM RUST: *G. S.* You may not hear so much about this malady as formerly, because gardeners are better acquainted with

the best means of combating its ravages. One of them is to spray the plants when making their growth with sulphide of potassium (liver-of-sulphur), $\frac{1}{2}$ -oz. dissolved in one gallon of water. The fungus was described by Mr. G. Massee, and figured in the *Gardeners' Chronicle*, October 8, 1898, p. 269.

CINERARIAS: *J. W. P.* We can find no evidence of disease. The stem is partly decayed immediately below the soil level, and this is probably due to excessive applications of water or the use of stimulants.

CUCUMBER LEAF-SPOT: *J. M.* We are not sure if the Bordeaux-mixture can be purchased ready for use. All your other questions were answered fully and categorically on p. 184 in the *Gardeners' Chronicle* for September 5, which please see.

DAHLIA GLABRATA: *R. McL.* Is considered synonymous with *D. Merckii*. It is figured in *Botanical Magazine*, 3878, and in *Nicholson's Dictionary of Gardening*, vol. i., 433.

DAISIES ON A LAWN AND CRICKET GROUND: *Enning.* If the plants quite overrun the grass-land nothing you can do will eradicate them short of digging the land one good spade in depth, and sowing it with a perfectly clean mixture of fine grasses. Another mode is to select the cleanest turf, skimming the bad turf off 2 inches thick and relaying the whole with the new turf. Where Daisies are not so numerous, feeding the grasses with lawn sand, fish manure, or any manure which will make the grasses grow abundantly and smother the Daisies and other weeds is usually quite satisfactory. Close mowing with machines is responsible for the dissemination of Daisies, as the plants thereby grow dwarfed every year and accommodate themselves to circumstances, with the result that the machine fails to nip off the flowers, and these set and form seeds, and so the process extends. Having once got a clean lawn by sowing grass seeds or laying clean turf, let it be kept free of weeds by spudding and manuring, and letting the grass grow 3 or 4 inches, and then mowing it with the scythe several times in high summer. If there is dirty land near the lawn or cricket ground the grass should be frequently mown or sheep kept on it, otherwise seeds of all sorts of weeds will be introduced to the former.

GLASSHOUSE CONSTRUCTION: *M. B.* Question 1. 21-oz. glass means that 1 square foot weighs 21 oz. Question 2. For glazing an exposed house roof, the panes should not have a greater width than 1 foot; the length is not of much matter, excepting in the cost of repairs; 2 feet is a suitable length. Question 3. Any of the more important dealers in horticultural glass might be depended on to supply glass of British make, if that sort were specially asked for. Scan our advertisement columns. Question 4. Most of the big horticultural builders supply wooden and iron framing for roofs and ends of houses, door-frames, &c. Question 5. We do not know who is the maker of the Patent Gear Ventilator mentioned.

HARDY FOLIAGE PLANTS FOR A NORTH BORDER: *S. P. T., Tewkesbury.* *Acanthus lusitanicus*, *Arundinaria falcata*, *Arundo conspicua*, *A. donax*, *A. d. variegata*, *Iris foetidissima variegata*, *Phormium tenax*, *Yucca aloifolia*, *Y. gloriosa*, *Y. filamentosa*, *Y. flaccida* and others, *Farfugium grande*, *Plumbago Larpenae*, silver and golden variegated Hollies, also green and variegated Ivies; Golden Privet, and *Olearia Haastii*. Of flowering plants we may name Pansies, Violas, spring-flowering bulbs as Crocus, Tulips, Narcissus, and perhaps Hyacinths; shrubby Phloxes, prostrate Phloxes, Campanulas, *Cineraria maritima*, *Arabis lucida variegata*, *Myosotis*, *Mimulus* in variety, and Pentstemons. Some species of annuals might succeed, such as *Bidens atro-sanguinea*, *Tagetes pumila*, &c. The land should be lightened and warmed by digging-in leaf-mould, strawy stable-litter, coarse sand and charred soil. The Bamboos you suggest planting are not likely to succeed, but strong-growing species of Ferns, *Crambe cordifolia*, *Heracleum giganteum*, and *Gunnera* probably would do so.

INSECT?: *C. R.* What you send as an insect is a centipede (*Julus*), very common in decaying vegetable matter. See under Scientific Committee, p. 326.

LEAF-MOULD: *C. E. J.* No living creature was found in the leaf-mould.

NAMES OF FRUITS: *G. Jennings.* Calville Rouge D'Automne.—*A Subscriber.* Yes. Golden Pippin, one of the best and most delicious dessert Apples in commerce.—*M. F. Ribston Pippin.*—*W. H., Surrey.* Williams' Victoria.—*E. Lazenby.* 1, Herefordshire Beefing; 2, Gipsy King; 3, Frogmore Nonpareil; 4, Court of Wick; 5, Wyken Pippin.—*Sussex.* 1, Ribston Pippin; 2, Sam Young; 3, Beauty of Kent; 4, Flower of Kent; 6, Court Pendu Plat.—*John White.* Pear, Doyenné du Comice. The best Pear; will do well either as a pyramid or espalier.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—*E. K. Panicum plicatum.*—*F. P. Phaseolus Caracalla.*—*A. Butcher.* *Pittosporum Tobira.* Greenhouse and warm walls in the South.—*T. H.* 1, Cupressus, perhaps macrocarpa, but without cones; 2, *Tsuga canadensis*; *Thuya gigantea*; 4, *Griselinia littoralis*; 5, *Lycium sinense*.—*T. A.* 1, not found; 2, *Abies Pinsapo*; 3, *Cedrus deodara*; 4, *Pinus excelsa*; 5, *Thuya nootkaensis*; 6, *Sequoia gigantea* *Wellingtonia*; 7, *Picea excelsa*, dwarf variety. These are conjectural determinations, for without cones it is not always possible to name fragments.—*W. R.* Why send to the Publisher in such a case? It is the true Service Tree, *Pyrus Sorbus*. *J. McLeod.* *Viscaria oculata.*

PERNETTYA MUCRONATA: *W. B. C.* The plant was introduced in 1828 from Magellan, and is to be found in many gardens in Great Britain and Ireland. It needs peat or a light sort of loam to grow it well. Mr. Davies, of Hillsborough, Co. Down, has raised numerous varieties.

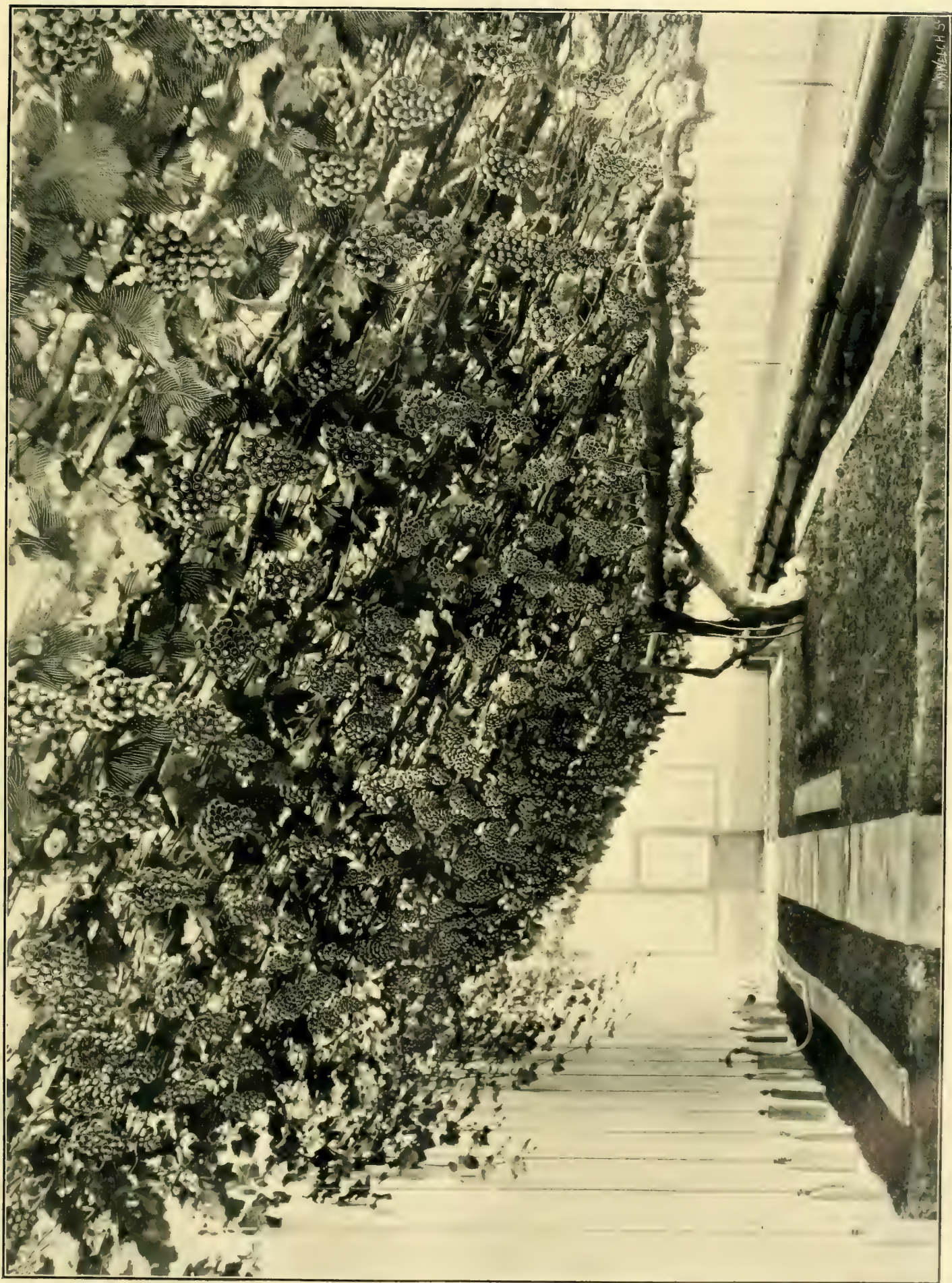
POINSETTIA: *H. W.* The bracts appear to have been injured by mites similar to those which attack Begonias. Dip the points in weak Tobacco-water, and if you fumigate them it must be done very moderately. The Tobacco-smoke has probably caused the bracts to fall.

POLES FOR SUPPORTING THE NET ACROSS A LAWN TENNIS COURT: *J. E.* The distance the poles should stand is 3 feet over the sides of the court. The width of a court is, for two persons, 27 feet, and 36 feet for four persons.

THORN-TREES PLANTED ONE YEAR NOT STARTING INTO GROWTH: *G. O.* The roots were probably much mutilated on being lifted, and although the plants have been kept alive, perhaps by reason of the rainy summer and autumn, they were incapable of bursting into leaf. They will probably do so next spring. Apply a mulch of half-decayed tree-leaves or bracken round each about a yard in diameter.

TURF: *C. B. H.* The sample sent consists of one species of grass, and that a poor grower. We would recommend you to dig the lawn all over, applying some small quantity of decayed stable-dung at the same time. It is now rather late for this to be done, and it would be better to wait till March before sowing. The more shady places should be sown with some strong-growing species, and the rest with a good mixture of lawn-grasses and the finer-growing Clovers.

COMMUNICATIONS RECEIVED:—*H. W. W.*—*J. W.*—*J. G.*—The Director, Royal Gardens, Kew—*C. Butters.* Port Elizabeth—*A. O. W.*—*Hans Schinz.* Zurich—*C. E. P.*—*R. McL.*—*W. J. B.*—*J. D.*—Old Subscriber.—*J. McL.*—*C. S.*—*A. C. F.*—*F. H.*—*A. C. Forbes.* acknowledgment overlooked—*J. R.*—*J. B.*, Berlin—*E. D.*, Brussels—*A. G. S.*—*J. Pitts*—*David C.*—*J. E.*—*S. G.*—*F. P.*—*W. C. L.*—*A. H.*—*S. W. F.*—*W. R.*—*P. B.*—*A. Mayes*—*S. C.*—*M. E.*—*J. F. M.*—*J. O'B.*—*T. O. W.*—*G. Massee*—*H. W. W.*—*W. F.*—*H. R.*—*W. J.*—*W. H. V.*—*A. Worsley*—*F. J. H.*—*C. E. F.*—*A. Constant Reader*—*H. F.*—*A. L. D.*—*Improver*—*Claremont*—*H. T. B.*—*W. H.*—*Mrs. R.*—*F. E. C.*—*W. J. G.* (the other exhibitors named had specimens in the hall).—*T. T.*—*T. J.*—*J. U.*—*T. H.*—*W. H.*—*D. B.*—*E. S. G.*



THE CUMBERLAND LODGE VINE. THE HOUSE IS 133 FEET IN LENGTH.



THE

Gardeners' Chronicle

No. 881.—SATURDAY, November 14, 1903.

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View from the great terrace of Versailles (Supplementary Illustration)	

A TORQUAY GARDEN.

DUNCAN HOUSE, the charming residence of Dr. R. Hamilton Ramsay, is situated close to the beautiful town of Torquay, and is about 170 feet above the sea level. It has been in his possession since 1865. The garden, which has been entirely laid out and planted by Dr. Ramsay during his occupancy, and is now not only one of the most beautiful in the neighbourhood, but is also one of the richest in the South of England as regards the quantity of rare exotic plants which grow and flourish out-of-doors in this much favoured climate. The garden slopes in terraces from the house, lies south-west, and is well sheltered all round by a broad belt of fine old trees, rendering it a veritable sun-trap. It is all arranged with such skill that it conveys the impression of being much larger than it is in reality. Altogether it is not more than an acre and a quarter in extent, including house and kitchen garden.

We were recently privileged to make a tour of inspection of this fine garden, and were greatly surprised to see so many comparatively tender plants growing so luxuri-

antly out-of-doors summer and winter, most of which require the protection of a covering of glass in less favoured districts. A few of the more important plants observed may be mentioned. Beginning at the house, the walls of which are covered with such plants as Heliotrope—an old plant was in full flower; this was planted in its present position thirty-seven years ago. Solanum jasminoides was covered with blossom, as was a Myrtle 20 feet high; Abutilon Boule de Neige, 10 feet in height, was very attractive with its large, white blossoms; Clanthus puniceus, Stauntonia latifolia, Habrothamnus fascicularis, Wistaria sinensis, interspersed with Roses, were the chief plants covering the walls.

Amongst Roses, Maréchal Niel was 30 feet high; Louis Philippe, an old Rose, was very effective. Others were Sunset, Marie van Houtte, Mrs. Bosanquet, Souvenir d'un Ami, and Cramoisi Supérieure, one of the finest of China Roses, which here grows 16 feet high, and for ten months in the year has blooms on it. In a narrow border in front of the house were growing Convolvulus cneorum, a shrub 4 feet high, a native of the South of Europe, in full flower; Callistemon rigidus, from Australia; Restio subverticillatus, from the Cape of Good Hope; Aloysia citriodora in large bushes; Melianthus major, and large clumps in full flower of Crinum MacOwanii, and Amaryllis Belladonna.

At the east end of the house was a fine old plant of Abutilon Duc de Malakoff, about 30 feet high, covered with large red blossoms; this was planted out twenty years ago. Here were also Fuchsias, single and double-flowered varieties; one red double-flowered plant was 20 feet high. Covering the end of an adjoining wall was a remarkable plant of Sophora tetraptera, from Chili, which flowers and fruits freely, and is about 30 feet high. Here also was a fine plant of Corynocarpus laevigata, a tree from New Zealand, having large shining foliage; and the Exmouth variety of Magnolia grandiflora.

On a terrace immediately below the house is a row of fifteen plants of Cordyline australis, varying from 15 to 20 feet in height, each breaking out into several heads at the top, indicating that they had flowered previously; they were in perfect health, and gave a fine, picturesque appearance to the garden.

A little lower down on this terrace, in front of the west corner of the house, is a group of the most remarkable trees probably ever seen growing out-of-doors in this country—viz., a group of Palms, several of them being in flower or fruit. The group consisted of half-a-dozen trees of Trachycarpus excelsus (Chamærops excelsa, figured in *Gardeners' Chronicle*, Dec. 10, 1898), from 14 to 26 feet high. The ground underneath was covered with self-sown seedlings; hundreds of young Palms were springing up all around. Other Palms in this group were Chamærops humilis, about 4 feet high. Phoenix canariensis, 5 feet 2 inches, and a small plant of Corypha australis. Near at hand were growing Citron and Orange, Hedychium Gardnerianum, Desfontainia spinosa in flower, Cordyline Banksii in flower and fruit (figured in the *Gardeners' Chronicle* some time ago), Camellias of sorts, Eucomis, and huge clumps of Canna indica, 12 feet in diameter.

Lower down in the garden we came across Colletia horrida, 7 or 8 feet high, having its sweet-scented white flowers freely produced, and curious spiny stems; Miscanthus japonicus (Eulalia) and Arundo conspicua were most effective with their feathery plume-like flowers. The Macartney Rose had a bed to itself, and was about 4 feet in diameter, simply covered with its large single white blossoms. A fine tree of

Benthamia (Cornus) fragifera, about 30 feet high, was laden with its peculiar Strawberry-like fruit; Prunus divaricata (Pissardi), a handsome quick-growing tree, was about 26 feet high, its purple foliage having an exceedingly fine effect, and looked at a distance like copper-coloured Beech.

About the centre of the garden are placed two cement tanks for aquatics, in which several species of Nymphaea were luxuriating. Around these tanks, in a wet piece of ground, Phormium tenax, New Zealand Flax, was growing vigorously, forming immense clumps 12 ft. through. P. tenax variegatum was nearly as large and in splendid health; P. Cookianum (Colensoi) was the largest of the group, being no fewer than 14 feet by 8 feet. Several Bamboos were in a very thriving condition here; the best were Arundinaria falcata (Thamnocalamus Falconeri), Arundinaria Simoni, Bambusa gracilis. Arundinaria japonica (B. Metake) has been banished from the garden proper to the shrubby border on the outskirts, as it was inclined to overrun and smother everything else in its way. A great mass of Saxifraga peltata was growing here having leaves nearly 3 feet high, not unlike parasols in appearance; Rodgersia podophylla made a fine companion to this giant Saxifrage. Near at hand was an enormous plant of Aralia Sieboldi, no fewer than 30 feet wide [now blooming profusely], and Hydrangea hortensis 25 yards wide, which produces blue and pink coloured blossoms on the same plant. A small bed of Eupatorium odoratum, 3 feet high, was exceedingly pretty.

At the lower end of the garden several Conifers were very conspicuous. Among the best were Cupressus macrocarpa, 60 or 70 feet high; C. Lawsoniana, 50 feet high; C. Nootkaensis, 40 feet high; Thuja gigantea, 50 feet high; Podocarpus andina a small bush, but growing freely, and a very remarkable Juniper (Juniperus communis compressa), about twenty years old, and still not over 7 inches in height, although in perfect health. Several species of Pittosporum were very fine, P. Mayii being 40 feet high, P. Tobira, 10 feet; P. undulatum, P. eugenioides, and others were present, mostly small plants raised from seed procured from New Zealand. There were several large bushes of Choisya ternata, one being 12 feet in diameter. Fuchsias corallina and the old F. Riccartonii were abundant, and Clerodendron trichotomum made a great display. A large number of New Zealand shrubby Veronicas were planted in a group and flourishing well; V. Cookiana, 5 feet through, was covered with flowers, and seedlings were growing up all around. Amongst others were V. Balfouriana, V. Girdwoodiana, V. macrocarpa, V. Lewisii, V. Hectori, &c. Dr. Ramsay drew my attention to several Dahlias in flower, that had remained out in the ground for several winters, never having been lifted. Euonymus japonicus variegatus was used as a hedge plant, and so treated made a beautiful object. All around the protection borders were, here and there, trees of Laurus nobilis, Sweet Bay, 30 feet high many of them, and covered with fruit; self-sown seedlings of Sweet Bay were springing up abundantly everywhere.

Many distinguished personages have at various times visited this garden. Queen Alexandra, when Princess of Wales, accompanied by the Duchess of Sutherland and the Countess of Cromartie, honoured Dr. Ramsay by paying a visit to his fine garden in the year 1887 (Jubilee year).

Dr. Ramsay is an enthusiastic gardener, and takes a great interest in everything connected with the welfare of gardeners. He has recently been elected President of the Torquay and District Gardeners' Association for the tenth year in succession. There is ample evidence everywhere present of the loving care and devotion which he has bestowed on his garden during the intervals of a busy professional life. *Robert Lindsay.*

CAMPANULA VIDALI IN THE OPEN.

I LATELY contributed a short note on the subject of the accompanying illustration. The specimen was planted out from a pot in the spring of last year in front of a wall, and flowered fairly well during the summer. As an experiment it was left entirely unprotected throughout the whole winter, which it passed through without the slightest harm. In the spring it began to make strong growth and eventually threw up thirty-three flower-spikes, the tallest reaching a height of 35 inches from the ground and carrying eighteen blossoms; while in all the plant, at the time I photographed it, was carrying about 400 blossoms. Its main stem, from the top of which the flower-shoots are thrown out, is woody,

very waxy and substantial in texture, and stand out from the flower-stems on foot-stalks about 2 inches in length, some of which carry three or more blossoms, giving the plant a distinct character. *Campanula Vidalii* was introduced into this country in 1851, and has for years been a fairly common occupant of the conservatory, where it is useful for summer decoration. *S. W. Fitzherbert, Kingswear, South Devon.*

ORCHID NOTES AND GLEANINGS.

MESSRS. HOOLEY BROS., of Southampton, send us a *Cattleya* bloom in which two flowers are united Siamese-twin fashion. There are five sepals, three petals (two lateral and one posterior);

For the latter part of the time the show of *O. grande* has been rivalled by the *Cattleya labiata*, of which over a thousand blooms expanded last week. *Miltonias* and other Brazilian Orchids are also well represented.

ODONTOGLOSSUM CRISPUM.

Plants of this species to the number of 14,000 newly-imported pieces were offered for sale at Messrs. Protheroe & Morris' rooms on Friday 30th ult., and buyers evidently expected some good things to be among them. In the early part of the sale the prices varied, some making 5s. each, and others much less, and I think a few made more money. I did not follow the sale through, there being upwards of 3,000 lots, but from the attendance and the interest shown it must have been a good sale. I gathered from one well able to judge that it was expected that the whole of the lots would be disposed of.

CYPRIPEDIUM INSIGNE.

Improved and hybrid varieties of this useful Orchid were in demand at this sale. A few good varieties made high prices. One plant, sold as *Cypripedium insigne* variety, without any distinctive name, started at a low price, and was eventually knocked down for 60 guineas. *C. insigne* Harefield Hall, a plant not in flower made 15 gs., and one with one bloom 26 gs.; small pieces of *C. insigne* Sandersæ made from 5½ to 6½ gs. each; a plant of *C. Pollettianum magnificum* 9½ gs., *C. Lawrenceanum Hyeannum* with two growths 44 gs., *C. Mandiæ* 15 gs., and *C. Harrisonianum superbum* × concolor, 12 gs. Other varieties sold equally well.

NEW HYBRID CATTLEYA.

A new hybrid *Cattleya* imported by L'Horticulture Coloniale (Brussels), and recently shown before the Société Nationale d'Horticulture de France, is described by M. Grignan in the *Revue Horticole*, as follows:—" *Cattleya Duchesnei* × " This plant, exhibited to the Society by M. E. Duchesne, Managing Director of the Society known as "L'Horticulture Coloniale" of Brussels, is of great interest. It was received in an importation of *C. Harrisoniæ*, and at once attracted attention by its different habit, similar to that of *C. bicolor*. When it flowered for the first time in early October it became evident that it was a natural hybrid between these two species. The flowers, as large as those of *C. Harrisoniæ*, have petals with wavy edges, broader than those of *C. bicolor*, as are the sepals, and like them of a brownish wine-red colour which is quite a blend of the tints of its two parents. The lip resembles *C. bicolor* most in form and *Harrisoniæ* in colour; the tube is sulphury-white, as is the disc; the anterior lobe shows one clear crimson spot. This novelty is the more interesting for the fact that *C. bicolor* and *C. Harrisoniæ* have not been artificially crossed under cultivation."

NURSERY NOTES.

MESSRS. CHARLESWORTH & CO.'S, BRADFORD.

ONE of the few horticultural firms in this country devoting its attention exclusively to Orchid-culture is that of Messrs. Charlesworth. To those who know the small efforts made in the neighbourhood of Bradford at Orchid-culture a few years back, and compare the extensive premises now devoted by the firm under notice, not only to the cultivation of orchidaceous plants in general, but to one of the most comprehensive collections of hybrids raised in this country, such a large trade establishment will come as an agreeable surprise.

The hybrids in themselves are very numerous, in size ranging from the minute germinating



FIG. 139.—*CAMPANULA VIDALII* GROWING AT THE FOOT OF A WALL.

9 inches in height and 4 inches in circumference. It was at its best at the end of July, but, curiously enough, it has since produced a second crop of flowers, and is now (November 7) again in bloom. This time it has thrown up ten flower-shoots, the largest one far exceeding any of the summer flower-shoots in size, and bearing thirty-four blossoms. Unfortunately every growth made this year has developed into a flowering one, and I therefore greatly doubt the plant's surviving the coming winter. I have never met with this *Campanula* permanently planted out in the open, though it is quite possible that there may be other instances besides that of the plant here illustrated. I have, however, several times met with it flowering in the open, but this was where the pots were plunged in the border and were removed to glass protection in the winter. As may be seen, a good specimen of this native of the Azores is an attractive sight when in full flower, the long, white, drooping bells, which are

two lips and two columns, in all twelve parts instead of fourteen. The two parts that have been thus crowded out are one sepal and one petal.

ODONTOGLOSSUM GRANDE.

This, the largest-flowered and perhaps showiest *Odontoglossum*, has been more plentifully represented in gardens this season than it has ever been since its discovery by Mr. G. Ure Skinner in the shady ravines near the city of Guatemala in 1839. For many years it was steadily destroyed in hothouses, and even since it has been known that it wants cool treatment it has not been so successfully grown in the cold-house as *O. crispum* and others of that class, because it requires a rather drier atmosphere, especially during the flowering season. Usually it does best in a cool intermediate-house with *Lycastes*, &c.

A very fine show of this rich yellow-and-brown *Odontoglossum* has been in the nurseries of Messrs. Stanley, Ashton & Co. at Southgate.

plant to thousands of others showing their flower-sheaths for the first time. In addition to these, there are large batches of hybrids, especially of Cattleyas, on every hand. In one division I noted scores of plants of *Lælio-Cattleya* × *Gottoiana*, L.-C. × *G. S. Ball*, L.-C. × *Charlesworthii*, L.-C. × *Baden-Powell*, L.-C. × *Bletchleyensis*, *Lælia Mary Gratrix*, with its attractive coloured flowers; and just about to burst into flower were extensive and varied collections of hybrids derived from plants which have *Cattleya Bowringiana* as one of the parents. What a striking addition to the winter-flowering Cattleyas these in their varied forms make! How they contrast with the more recently introduced varieties raised from *C. granulosa*! The most striking of these in flower at the present time are *C. iris* (*C. bicolor* × *C. aurea*) and *C. marginata*. Here the yellow has blended with the green, and the offspring has a desirable bronzy tint in the petals. The colour in the lips of the different varieties in flower showed much contrast. *C. × Chamberlainiana* (*Dowiana aurea* × *Leopoldii*) is well represented; it is a striking new hybrid, derived by crossing *C. Schilleriana* and *C. Trianae*. The habit and general characteristics are intermediate between these two; the sepals and petals are of deep rosy-lilac tint; the lip of a crimson-purple tint, suffused with yellow at the base.

Several fine plants of *C. Dowiana aurea* were expanding, and among them a most striking variety of *C. × Hardyana*, a natural hybrid, in which the sepals and petals are feathered and veined with rosy-purple. A plant just coming into flower of *C. Dowiana rosita*, which caused so much sensation when placed before the Orchid Committee of the Royal Horticultural Society a season or two since, is in the finest possible condition. Named varieties of typical Cattleyas of great excellence are a specialty, more particularly the albinos, such as *C. Gaskelliana alba*, *C. Harrisonæ alba*, *C. Skinneri alba*, the white varieties of *C. Mossiæ* and *C. labiata* being in good, healthy, flowering condition.

Vandas, *Aërides*, *Angræcums*, and other inmates of the warmer houses, are represented by well-grown plants. Particularly noticeable were the natural hybrid *Vandas*, including *V. Moorei*, *V. Charlesworthii*, and *V. amona Lauchiana*. The *Aërides* in flower comprised well-grown plants of *A. Lawrenceæ*, and the rare *Angræcum Eichlerianum*. Suspended from the roofs were botanical curios such as *Bulbophyllum*, *Cirrhopetalum*, *Catasetum*, &c. An extensive collection in fine condition of *Anæctochilus* and its allied genera such as is rarely met with in collections.

Until the last year or two the cultivation of *Phalenopsis* suffered much from neglect. To observe such a large number of plants as is here brought together cannot but help to illustrate the desirable qualities of their flowers and to once more bring them into general cultivation. Thousands of plants of *P. Schilleriana* and other species are in the finest condition, and will furnish a grand display by-and-by.

Cypripediums are another specialty, and the collection comprises practically all the recent introductions and the rarest species and hybrids in cultivation. The most prominent among them are *C. × Venus*, *Oakwood* var. (*insigne Sandersæ × niveum*), which was so finely illustrated in the *Gardeners' Chronicle* at the time that it received a First-class Certificate at the Royal Horticultural Society early last year. Mr. Burkinshaw's variety of *C. Godfroyæ leucochilum*, so much admired at the first show at Holland House; *C. Baron Schroder* (*Fairieanum × ænanthum superbum*), some remarkably large specimen plants of *C. Niobe*, *C. Helen II.*, *C. Dora Crawshaw*, and a representative collection of the bellatulum section of hybrid *Cypripediums*; *C. triumphans* among the darker-tinted hybrids. The varied

characteristics of the *C. Charlesworthii* × *C. insigne* hybrids are displayed in a large batch of plants. An importation of *C. Spicerianum* struck me as containing several distinct forms, many of the seed-pods being produced on scapes which are upwards of 18 inches in length, and the leaves are likewise very distinct.

■ Mexican *Oncidiums*, which are well repre-

course of opening, including the rare variety *O. g. aureum*. This plant has been imported largely the last few years, and there is no reason to suppose it will not be grown in quantity. Suspended from the roofs were plants of *Sophranitis* and nearly a complete collection of the *Sophranitis* *Cattleya* hybrids, many of them in bud, or with flowers about to expand.



FIG. 140.—*CAMPANULA VIDALI*: NATURAL SIZE. FLOWERS PORCELAIN-WHITE. (SEE P. 330.)

sented, showed some attractive natural hybrids in flower. *Oncidiums* of the *O. macranthum* and *O. superbiens* sections are grown in great quantity, and are developing flower-scapes freely.

In one of the cool Orchid-houses an extensive batch of rare and interesting *Masdevallias* is growing, as also a well-nigh complete collection of hybrids. It is a great pity the quaint characteristics of this genus do not appeal to present-day cultivators. In an adjoining division there were some hundreds of *Odontoglossum grande* in

The *Odontoglossums* present a fine appearance, and several varieties of *O. crispum* were in flower. A large batch of *O. cirrosum* showed a forest of flower-spikes that will make a good display in due course. *O. Edwardi* thrives here, and the various species were well represented. *O. crispum* was represented in immense quantities, ranging from imported plants to some of the finest imaginable specimens. The choice varieties include *O. c. Luciani*, *O. c. Princess Maude*, one of the finest of the *punctatissimum* section; *O. c. Starlight*,

O. c. hololeucum, *O. c. Queen-Empress*, *O. c. virginale*, and others. Varieties such as *O. Lælio-purpureum Vuylstekianum*, *O. Pescatorei Charlesworthii* (which latter received a First-class Certificate at the Temple Show a year ago), were noted. The natural and garden hybrids are specialities, and an extensive collection of *O. × Adriane* was showing flower-scapes; *O. × Hallio-crispum* and *O. × Harryano-crispum* have flower-scapes in a forward state; and just about to expand their flowers were plants of the home-raised *O. Harryano-triumphans*, the most attractive of its section. As with others engaged in hybridizing Orchids, the *Odontoglossums* receive Mr. Charlesworth's special attention, and judging from the number of crosses made, the results can scarcely fail to bring satisfactory results. Mr. Charlesworth may be trusted not to make haphazard crosses. The unflowered Orchid-hybrids fill six houses, each some 150 feet or more in length. This will convey to readers an idea of the extent of the establishment. *H. J. C.*

South Harrow, there is a row of large Laurels, with their leaves almost touching the gas-holders, and quite near to them the Hawthorns bloom well in their season. In the little greenhouse Maiden-hair Ferns, Fuchsias, and other flowering plants are perfect in foliage and flower; and the Tomatos are fruiting. The fact is that not all that is said about the injurious effect on vegetation by gas-works and factories is true. In dwelling-houses and other confined places gas quickly causes damage, but in the open air the injury often pointed out as the effect of gas or odour from chemical works is generally the consequence of curtailed water supply, causing drought, and the injury more often than not comes from the root. In the neighbourhood of London and other large places where building developments have spread over what used to be agricultural land, evidence of this is given in the trees, which remain either dying wholly or in part year after year. Those trees have been raised by an existing water-supply, and when the new drainage systems take

panded blooms. Daybreak is another good variety, but smaller and lighter in colour. Mrs. J. W. Lawson with us is only moderately good, and quite third-class as compared with Franco. Winter Cheer is one of our favourite scarlets; W. Robinson is also excellent, but rather shy; J. P. Rugus is also good, and I intend to grow more of it; Mrs. J. Brooks, perhaps the best white in cultivation, is also noteworthy. Now, a great number of varieties which are classed as winter-bloomers disappoint one, for after giving a few blooms in the autumn they fail to produce any more till the spring, which means very little return for a season's attention.

There are also a few varieties—take Duchess of Devonshire for instance—which with us will not stand open-air treatment in summer. Certainly the rainfall is rather heavy during the early part of the autumn; but the plant never seems vigorous at any time. Next year it is my intention to give this and other delicate growers the protection of some frame-lights; this will incur a little extra work; and indeed it is only the grower himself who knows the amount of time these winter favourites require. *John Kneller.*

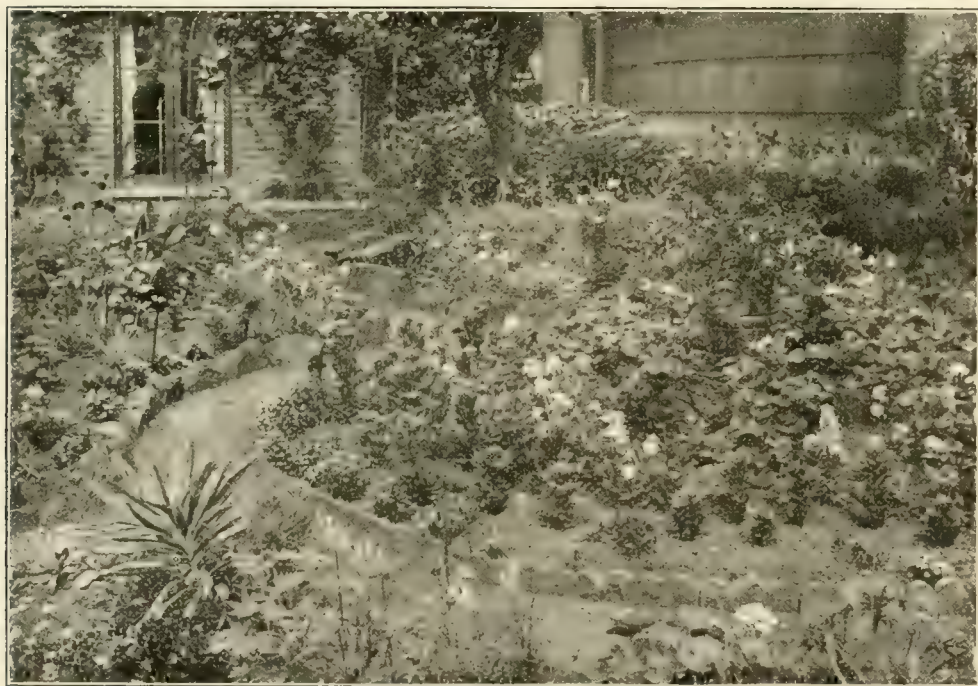


FIG. 141.—A GARDEN AT ROXETH, NEAR HARROW.

A GAS-WORKS GARDEN.

OUR illustration (fig. 141), taken from a photograph, represents a part of the pretty little garden of Mr. Chas. Chambers, Assistant Manager to the Harrow and Stanmore Gas Company, and whose garden beside his house is under one of the gas-holders, a part of which may be seen in the illustration. Even although this has been a bad year for gardens, and the small one alluded to has been much finer in previous years, it has notwithstanding had a very fine show of flowers, the old crimson Clove Carnations, which occupy a considerable part of the rockery borders, having had a large supply of flowers, especially on the higher one, which has also been showy with Columbine, &c. At present some of the Carnations are still in bloom; and Asters, Pelargoniums, Fuchsias, Mignonette, and other flowers, for brightness and good quality compare favourably with those in other gardens. Mr. J. L. Chapman, the clever engineer and secretary of the Company, is also a great lover of flowers, and favours the keeping of shrubs, flowers, &c., about the works. Consequently, at the entrance in

a large proportion of that supply away the trees cannot maintain their dimensions, and have to die back to a size which the water supply can nourish.

FLORISTS' FLOWERS.

MADAME FRANCO CARNATION.

THIS variety still holds its own amongst our winter-flowering Carnations. At Penrhyn Castle it is decidedly a long way ahead of all other varieties. Its perfect tree form, habit, the lovely deep colour and fragrance of bloom, render it all that can be desired. It is very liable to burst its calyx, but that is easy to remedy by means of a small elastic band. We have had in a small span-roofed house about 400 of this variety in bloom in 7-inch pots, and several hundred blooms which, when fully expanded, measured 4 inches in diameter, with hundreds of buds at all stages to follow. Last year I cut almost daily, and on Christmas morning I counted 400 perfectly ex-

CHRYSANTHEMUMS.

(Continued from p. 374.)

SOME LETTERS FROM JOHN SALTER. — At this season of the year, when the attention of large numbers of our gardening friends is turned towards the Chrysanthemum, an article by M. Félix Sahut bearing the above title comes with peculiar appropriateness. The article in question appears in *Le Chrysanthème*, the official organ of the French National Chrysanthemum Society, and was called forth by some remarks that appeared in a paper written by Mr. Harman Payne, and read at the Bordeaux Conference of the French National Chrysanthemum Society two years ago. The late John Salter died at least a generation ago, and there are few of the present-day growers in England or France who can claim to have known him personally.

Following the article to which we have referred, a request was made to M. Félix Sahut to look up his correspondence with the eminent English grower, with the result that M. Sahut has contributed an article of extracts from letters and personal recollections extending from 1856 to 1865, and which occupies seven pages of interesting reminiscences.

Salter, as we know, left England in 1838 and went to Versailles, where he started a nursery in the Avenue de la Picardie. It would be interesting to know whether this establishment exists still. In 1848, owing to political changes, Salter returned to England and established himself at Hammersmith, in a place which he called the Versailles Nursery. It is evident that he kept in constant communication with many of his French colleagues, exchanging novelties with them, as some of our importers do nowadays, and in purchasing seed of them, and thus continuing in so remarkable and successful a way here in England the work that he had previously done in France.

Evidently Mr. Salter, in exchange for seed furnished by M. Sahut, used to forward him a selection of plants, some of which he had raised from the seed thus received. In the list of varieties sent to M. Sahut in 1861 we notice Golden Christine, Golden Queen of England, Alfred Salter, and Little Harry. The last-named we have not seen for years, but it was a lovely orange-amber incurved that used to make a charming specimen plant. In this type, at any rate, we have made no progress of late, for many of the so-called modern incurved are coarse, ungainly, mongrel-bred varieties, whose only claim is size.

M. Sahut is emphatic on the excellent relations that have always existed between French and English Chrysanthemum growers, a condition of things which has now become traditional.

Mr. Salter, in the last letter quoted, says:—"I am in the course of publishing a little work, illustrated with engravings, on the history and cultivation of this flower, and shall have much pleasure in offering you a copy." The modesty of the man in calling his book "a little work" is characteristic, for no one who knows it would speak of it in that way. This courteous, modest and genial character was evidently one of the secrets of John Salter's success, and seems especially to have endeared him to men like M. Félix Sahut. C. H. P.

SOME CALVAT NOVELTIES.

At the time of writing these notes it was rather early to prophesy, but there are already numerous indications that some of the new seedlings of M. Ernest Calvat will be quite up to his average. In looking round one of the trade displays I noticed very fine examples of Madame L. Chevrant, Princesse Bassaraba de Brancovan, Madame Paolo Radaelli, Madame Waldeck Rousseau, Madame C. Nagelnackers—these, of course, are not new, but by comparison we were able to judge of the present year's set.

Souvenir de Calvat père is a long-petalled Japanese, rather broad, a big promising flower, in colour rosy-white, tinted rose and yellow. Phèdre, which was pronounced to be the best of the Calvat set of this year, was so early that it was over and done with by the third week in October. Emile Loubet is a grand pure white, very deep in build, and having florets of great length. Jean Calvat, a monster globular Japanese; the florets are of medium width, pointed at the tips, the colour deep golden yellow, tinted chestnut. Lohen-grin is a Japanese having large drooping florets, very deep in build, fine orange-yellow, tinted deep carmine. Mlle. Marthe Morel is of a peculiarly delicate shade of colour, being flesh-white, slightly tinted mauve; this too is a very large Japanese. Henri II., a flower deep and globular; a Japanese incurved, colour crimson and gold with florets pointed at the tips. Somewhat different in form is M. H. Martignier, which can be best described as a close, compact, deeply-built reflexed Japanese, in colour golden-yellow, shaded pale chestnut. Mme. Henri Douillet is a big solid Japanese incurved, a lovely shade of rosy amaranth; florets very broad, reverse silvery. Mlle. Alb. Bertrand; in size this is immense—a Japanese, very deep in build, and the colour pale lilac-mauve. Last to be noted is Etienne Bonnefond, which is quite up to Calvat's standard; this is a Japanese incurved, with very deeply-grooved florets, globular in form and close in build; fine deep golden-yellow tinted purple. C. H. P.

JAPANESE CULTURE OF CHRYSANTHEMUMS.

At the recent Paris Chrysanthemum Show, held in the large greenhouses on the Cours la Reine, and which formed the Palace of Horticulture during the great International Exhibition of 1900, Mr. W. Hata, a Japanese gardener, exhibited four curiously trained plants in large square wooden tubs or boxes. The plants were struck in February last, and were the following varieties: Eda Prass, Calvat's Australian Gold, Viviant Morel, and Mme. Gustave Henry.

The system adopted was the same as that shown in 1900 by Mr. Foukouna, gardener to the Emperor of Japan. By means of wire supports and a lattice-work of wood the branches were trained into large, square-shaped pyramids, the blooms all arranged at regular intervals, and numbering about 130 on each plant. They are very curious monuments of human ingenuity and patience. C. H. P.

CHRYSANTHEMUMS AT SWANLEY.

The ever-extended invitation to "Come and see" induced me to pay a recent visit to the "Home of Flowers," Messrs. Cannell's well-known establishment at Swanley, the chief object at this season being to view the show of Chrysanthemums.

Mr. Cannell, sen., has long been connected with the growth of this favourite autumn flower, and, in fact, he may be said to have been instrumental in bringing the now popular Japanese into public recognition.

About the year 1861, when a few of the first introduced varieties of Japanese that had been brought over by Mr. Fortune were exhibited (I believe by Messrs. Veitch & Sons), the florists and Chrysanthemum fanciers of that day looked coldly upon the loose and ragged-looking flowers, much preferring the incurved varieties. In a conversation with Mr. H. Cannell, he mentioned that

are therefore valuable on that account. They are no good for small specimen plants, as their habit is rather long, and they require to be treated similar to the cut bloom varieties, that is to say, to let the plant grow upright. They require good cultivation. A few of these mixed with Azaleas and other greenhouse shrubs in mid-winter have a grand appearance, and will excite the curiosity and admiration of everyone, for their colours are very striking, resembling somewhat the plumage of tropical birds; and others have the appearance of tassels made up of various kinds of beautiful coloured silk, and others of narrow strips of paper. If damp is kept from them they will continue in bloom a long time."

The cultivation of the Japanese Chrysanthemum still goes on actively at Swanley, and in quantity naturally now much beyond that of any other class, although the singles are receiving due attention as being likely to become more popular



FIG. 142.—PEAR DOYENNÉ DU COMICE. (SEE P. 333.)

he well remembered the first Japanese exhibited in 1861. In the centre of the stand was a bloom of the bronze-red incurved variety John Salter; this was much admired, but the Japanese gained but scant admiration. Mr. Cannell, however, thought rightly there was a future for this class, and at once took up their cultivation. Looking back into one of his early catalogues (1869), I find the following varieties enumerated:—Aurantium, Comet, Leopard, Red Dragon, Robert Fortune, Tarantula, The Daimio, and Wizard; and in the 1871 catalogue Meg Merries, Dr. Masters, grandiflora, and James Salter, are among others mentioned. These latter were introduced by John Salter and are still in cultivation, and the white sport from James Salter (Lady Selborne) is yet grown in considerable quantity for market. It may be of interest to quote the following from the 1869 catalogue above mentioned:—"These (Japanese) are certainly very novel in appearance, and are distinct from the ordinary kinds of Chrysanthemums. Most of the varieties do not fully develop their flowers until about Christmas, and

in the near future. I found the large show house filled with plants carrying for the most part blooms of exhibition quality. One of the first to attract attention was Red Carnot, an Australian raised variety of dwarf habit; Madame Paolo Radaelli, a large white tinged with pink; Lord Hopetoun, like an improved E. Molyneux; Ethel Fitzroy, bronze with yellow stripes; Josephine Rhu, rich plum colour; General Hutton, very fine, broad petalled, yellow; Beauty of Sussex; Colonel Wetherall, bronze incurving florets; Exmouth Rival, fine rich glowing red, one of the best in this class; Commonwealth, large creamy-white; T. Humphreys, chestnut; Lady Hopetoun, rose. Among many others the fine whites Mrs. J. Lewis and Mutual Friend were also conspicuous. The whole of the plants were of somewhat dwarf dimensions, the blooms were extra fine, and no plants of undue height, some in 32's with single stems carrying magnificent blooms.

Among singles the following were good: Sunbeam, Marguerite, George Forbes, Mrs. H. J. Harten, Horatio, Mrs. A. Briscoe, besides many unnamed seedlings. The original golden-yellow

C. indicum is also here grown under temporary frame and mat shelters; many thousands of plants were growing for the furnishing of late cut flowers, and an abundance of healthy cuttings for future stock and distribution. Among other noteworthy subjects noticed were the large collections of flowering zonals; and of Begonias the variety *Gloire de Lorraine* was in splendid condition. *C. H.*

COVENT GARDEN MARKET.

CHRYSANTHEMUMS are now coming in in overwhelming quantities. Pot-plants are over-plentiful, but growers do not seem inclined to part with good stuff under 12s. per dozen; some make more, and ordinary stuff goes out at much less, and a good many remained unsold. *Erica hyemalis* is now in, well-flowered plants making 12s. per dozen. *E. gracilis* and *E. Caffra* are also plentiful at 9s. to 12s. per dozen. *Begonia Gloire de Lorraine* and the Turnford Hall variety, the latter, splendid plants, at 18s. per dozen. *Verbena Miss Willmott* is still to be seen in very good condition. *Bouvardias* in flower are plentiful and cheap. Lily of the Valley in pots from 18s. to 30s. per dozen.

Ferns are still over-plentiful; really good stuff of ordinary sorts goes very slowly, even when offered as low as 4s. per dozen. Maidenheads are perhaps a little short just now, except in small sizes. Immense quantities of small Ferns of ordinary sorts remain on the market. Hardy shrubs are now coming in in large quantities, but they do not go freely at present, and there seems very little demand for Palms. Good Kentias may be had at much below usual prices. Some good Crotons are in; but when we see these going out on the hawkers' barrows it indicates bad trade. *Aspidistras*, green and variegated, also *Dracæna Bruanti*, are plentiful; the variegated *Aspidistras* of course keep up to a good price.

Cut Flowers.—The trade may be a little better than for pot plants, but with these there is a superabundance of most things. *Chrysanthemums* are on every side. It would be misleading to give prices, for they vary so much. Some of the best sell fairly well, but buyers have things pretty much their own way, and there must be large quantities left unsold. *Lilium longiflorum*, *L. auratum*, and *L. lancifolium rubrum* are all very plentiful; also *Callas*. *Roses* are very plentiful, but there are not many of the larger blooms just now. English Violets are now coming in, and *Parmas* are plentiful and good. *Azalea mollis* from retarded plants, *Orchid bloom*, especially *Cattleyas* and *Cypripediums*, *Tuberose* on stems, *Bouvardias*, and a variety of other useful cut bloom. The weather prevents buyers from taking more than is actually wanted. If we could only get a spell of bright fine weather it would help the flower trade considerably. *November 5.*

There is little that is fresh to be seen in the market this week. It is still overburdened with *Chrysanthemums*. Among those in pots *Caprice du Printemps*, a very pretty deep pink, is a favourite. Some useful small plants are now selling at 6s. per dozen, but the larger ones still keep up to 12s. per dozen. If anyone can find a good white to do as well as *Ryecroft Glory*, they would do a great service and make money. From what I saw of a small batch of plants in a nursery a few days ago, I think *Souvenir de Petite Amie* is worth more attention than it gets. Disbudded, it makes good blooms, and is dwarf. Well-berried *Solanums* are now coming in plentifully, and make from 6s. to 10s. per dozen. Of *Begonias*, the Turnford Hall variety goes out freely, but there are too many *Gloire de Lorraine* for the demand just now. Those who can keep them until December will do well. Continental-

grown *Aspidistras* and *Dracæna Bruanti* are now plentiful, also Palms; but trade for these might be much better. Shrubs in pots sell better, and there seems a little better trade for Ferns, but there is much room for still further improvement. Growers generally complain of bad trade, and many are suffering from flooded stoke-holds.

In cut flowers buyers can still have things pretty much their own way; *Carnations* are plentiful, the long-stemmed American varieties make about 3s. per dozen blooms. *Gardenias* make only about 1s. to 1s. 6d. per dozen; *Eucharis* are cheap; *Stephanotis* is making a little better price; *Orchid-blooms* seem plentiful. At the close of the market there were plenty of *Odontoglossum crispum*, *Cattleya labiata*, *Cypripedium insigne*, and *Odontoglossum grande* to be seen on the stands. *Narcissus yellow Soleil* is already in. Lily of the Valley is plentiful, *Lilium auratum* in large quantities. This may be useful for large decorations, but for ordinary florist's work there can be but little demand. There is still a plentiful supply of *Arums* and *Lilium longiflorum*. *Roses Catherine Mermet* is very plentiful, also *Perle de Jardins*, very good blooms; out-door *Roses* are small and begin to look much weather-beaten. *Dahlias* still continue to come in, but, except bright scarlet, they are little wanted now that "Mums" are so plentiful. All kinds of cut foliage is abundant; the hardy autumn-tinted foliage makes fair prices where it is bright and clean. Among this I noticed some very brightly-coloured leaves of *Spiræa Lindleyana*. The Golden Privet is now a favourite for cut foliage. Bronzy and red-tinted Oak is also used plentifully. *A. H. November 12.*

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Azaleas.—A few plants with prominent flower-buds of the Fiedler's white, *Narcissiflora* and *Deutsche Perle* may be introduced into a house having a temperature at night of 60°. Water at the root should be applied with care, and the plants afforded weak soot-water, which is one of the best manures; and though less water is required at the root, it should not be assumed that the soil may become dry as dust before water is afforded. These latter remarks are applicable to all hard-wooded plants now under glass. *Azaleas* should have their growths so trained that by the time they flower in spring each bloom will be shown to the best advantage.

Freeseas.—It is hardly safe to leave these bulbs in cold frames after this date, and the best places for them are light shelves about 2 feet distant from the roof in the greenhouse. Any attempt to force these bulbs is sure to end in failure, however strong and promising they may have appeared previously. Place another band of raffia around the supports to prevent the bending of the foliage, and afford a small quantity of weak guano-water at weekly intervals.

Euphorbia pulcherrima (Poinsettia).—Maintain a drier atmosphere overhead when the bracts are forming, and apply mild manure-water occasionally, but avoid having the soil very moist. A night temperature of 60° to 65° will be suitable at the present time. When the tops have to be cut for house decoration, sever them a few hours previously, and place the butt-ends in very hot water, where they should remain till required for use, thus closing to a certain extent the sap-vessels, and preventing the bracts and leaves from drooping.

Gardenias.—In many establishments *Gardenia* flowers are required throughout the year, and for the winter supply the plants should be specially grown, and afforded a rest in early summer. When started to flower they should receive a temperature of 75° or 80°, with abundant syringing. In order to carry out this treatment properly a house should be set apart for them,

and even then it is not an easy matter to obtain a large quantity of flowers during the next two months. Better results follow when the plants are rested till the new year, and increased heat and moisture afforded as the days lengthen. Very little water at the root will be necessary with a night temperature of 58° to 60°, which will be a suitable one; and if mealy-bug infest the plants, the latter should be frequently laid on their sides and syringed with a mixture of petroleum in quantity one wineglassful to every 3½ gallons of soapy water at 112° of warmth. This should be washed off ten minutes afterwards with the syringe and clear water at the same temperature. *Gardenias* planted-out in beds should be cleansed with a sponge, using a small brush for cleansing the points of the shoots.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Deciduous Dendrobiums.—Most of these species having completed their growth should be placed all together in a house having a warmth of 55° to rest, being afforded plenty of fresh air and sunshine. In severe weather the temperature of the house may be permitted to drop to 50°. Water should be applied very moderately for a few months, more especially if leaf-soil be used in the compost. The growths of such species as *densiflorum*, *thyrsiflorum*, *Farmeri*, *chrysotoxum*, and *suavissimum* having now developed, the plants may be rested with the above and afforded the warmer part of the house. Only a moderate amount of water will be needed whilst the plants are resting, just enough in fact as will prevent the shrivelling of the pseudo-bulbs and keep them healthy.

Lælia anceps.—The varieties of this useful short-bulbed species have their flower-spikes well advanced at the present date, and these should be slung up neatly to stakes, and occasionally afforded a cleansing with a wet sponge drawn up them so as to remove the sticky substance that accumulates at the tops of the spikes. This obviates the sticking of the upper bracts to the flower-buds, and allows the flowers to open more freely. Till flowering is passed, a moderate supply of water at the roots should be afforded, and afterwards the plants should have a long rest, and water very sparingly applied. A position should be found for these plants when in flower on the stage in the *Cattleya-house*, in a light position, and where fresh air can reach them. Plants of choice varieties which have formed weakly pseudo-bulbs should have their flower-spikes removed forthwith.

L. autumnalis, L. Goldiana, L. albida.—These plants, like the foregoing, are developing their flower-spikes, and should have similar treatment afforded. After flowering is over and the bulbs are matured, a long rest should be afforded in a cool, airy house, suspending the plants from roof in full light. Water should be applied long intervals of time, i.e. when the pseudo-bulbs show signs of shrivelling.

L. harpophylla is a species that flowers in the spring, and the growths are now developing rapidly, and a moderate supply of moisture is needed at the root. *L. harpophylla* affords very satisfactory results if grown in a peat and leaf-soil compost like that recommended for *Cattleyas*. The plant should be given at all times a light position at the cooler end of the intermediate-house.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

The Mushroom-house.—Continue to collect materials, and spread them in an open shed, turning them frequently to dissipate some of the rank ammonia fumes and promote sweetness. Beds in full bearing, as the soil becomes dry, may be afforded weak farmyard or stable liquid manure, mixing it with hot water before applying it. Rain-water is the best for use on Mushroom-beds. The heat which arises from the fresh materials employed in forming new beds usually gives off sufficient heat to the house till hard weather ensues, and is more beneficial to the

growth of Mushrooms than fire-heat. The temperature of the house should range from 55° to 60°, and the paths be damped down once or twice daily as may be required. Remove the litter from off the outside beds once in three weeks, substituting for it a good thickness of fresh litter.

Celery.—When the weather is fine and the soil in a dry state let the late crop be moulded up as fast as it becomes sufficiently advanced in growth. The Celery-fly (*Nephritis*) is very prevalent among Celery crops this season; in fact, on all Celery plants that have come under my notice this troublesome pest has been observed at work on a large scale. In the generality of years the numbers of the fly may be kept in check by the timely removal of the infested leaves or parts of leaves, and applying fresh soot or some suitable insecticide; but not so this season, for the growth of the plants has been checked by rain and low temperatures, and the spread of the pest favoured. If hard frost appears imminent the Celery-ridges should be covered with long, dry litter or bracken, removing this on change of the weather.

Parsnips.—These roots should be left in the ground till January, but covering a sufficient quantity of them with litter for temporary needs in the event of frost sealing the ground.

Jerusalem Artichokes.—Let the stems be cut off within 1 foot of the ground, and a portion of the crop covered with straw or lifted and stored.

Broccoli.—Gardeners adopt various methods in protecting these plants from frost. If the heeling-in method be carefully carried out in gardens where Broccoli cannot be wintered with success unprotected in some manner, the greater portion of a crop will pass through a severe winter almost uninjured. In heeling-in open a trench about 15 inches in width at the northern side of the plantation, and gently push over the plants backward with their heads pointing to that side, disturbing by so doing the roots as little as possible. The soil should then be broken up finely and worked carefully and very firmly round the stems, only leaving the heads of leaves above the ground level, the soft stems being kept just below the soil. If frosts are unusually severe, a light covering of straw or bracken placed over them will afford great protection and preserve them in the most severe winters. Plants now turning-in should, when sharp frosts set in, be taken up, each with a good ball of earth, and planted in a frame or open shed.

THE FLOWER GARDEN.

By J. C. TALIACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Clearing up and Planting.—Slight frosts have brought the flowering season almost to an end. Dahlias and tender subjects in general have been blackened, and even Asters, Pentstemons, Chrysanthemums, and other plants upon which we depend for a late display have scarcely sufficient left on them to warrant their remaining in the beds and borders. To those who intend to replant a part or the whole of their herbaceous borders, the change will be a welcome one, for, provided the weather remains fairly open, any such replanting may be expedited forthwith, instead of being postponed until the spring. Most of the rubbish from this general cutting over should be burnt forthwith, but some bundles of Michaelmas Daisy stems should be tied up and stood on end in a dry place for future use as protective material for tender young plants as they push through the soil—a use to which its slight slender stems are well adapted.

Gunneras.—Except in very mild parts of the country these must be afforded ample protection, and it is not too soon to apply it. Bracken forms one of the best materials for this purpose, but it should not be laid flat on to the crowns, but a few stakes should first be bent over the latter, of sufficient strength to hold up the bracken, a lacing of tarred twine being applied to prevent it from being blown away.

Kniphofias.—On the first dry day draw the leaves of the plant straight up to a point, and give the bundle a fairly tight twist, then

tie it in an upright position to a stake. If the leafage is plentiful this will form quite sufficient protection for the crowns, but it is also advisable to place a small heap of fine coal-ashes close round the base of the plants, or, if preferred, to draw up some of the adjacent soil. Soil is not quite so good a protection in a sharp winter as ashes, but it generally serves the purpose where ashes are objected to.

Crocuses, &c.—Pheasants and field-mice have a great liking for these corms, and may be expected at this season to begin to feed on them. Where corms and bulbs are planted in clumps the best means of protecting them is to cut squares of galvanised netting of suitable sizes and peg these down flat upon the soil above the bulbs, which is effective and cheap, and a good use to which to put old netting.

Gladioli.—These bulbs may be lifted and slightly dried before being stored away. It is advisable to leave some few inches of the stems attached and to hang them at the first in handfuls, the cleaning being done when the stems have become quite dry. Being fairly hardy and not liable to re-commence rooting in the autumn, I like to leave the lifting to this date. *Tropaeolum tuberosum* may also be lifted and stored like Potatoes.

Tulips and Hyacinths.—The planting of Dutch Tulips and Hyacinths should be completed as soon as possible and the beds made tidy by edging them neatly, and smoothing the surface with a moderately fine-toothed rake. Where appearances are studied a coating of Cocoanut-fibre refuse may be applied to the surface.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

The Peach and Nectarines.—Owing to the late excessive rainfall and comparatively mildness the foliage is holding on very tenaciously, and it will be prudent to let the young wood loose from the wall, especially where trees are secured with nails and shreds. By this means the immature shoots will get the utmost amount of light and air. Where new or old walls have to be furnished with trees and borders made the work should be taken in hand forthwith, beginning first with the drainage if the land is heavy. A Peach-border should be not less than 5 feet wide to start with, and unless the soil be very heavy the top spit may be mixed with the fresh soil in forming the border. When commencing, mark out the width of the border to be taken out, and place it in heaps along the front of the wall and far enough away so as to permit the workmen space to get between with wheelbarrows; then dig out and wheel away the bottom spit if found to be unsuitable. If drainage is a necessity, lay in a 6-inch layer of brickbats, chalk, sandstone, &c., and at 12 or 15 feet apart lay down 1-inch drain-pipes, or, better still, V-shaped rubble drains, leading from the wall, and connected with the main drains in the garden. A suitable soil for forming a Peach-border is sound turfy loam, if not of too heavy a nature, charred soil, and mortar-rubble, the latter two in the proportion of 2 bushels of each to each cartload (cubic yard) of loam. The whole should be mixed twice or thrice together, and then be wheeled on to the border, and the top soil that was put aside mixed with it as the work proceeds. Proper care should be taken that the drain-pipes do not get shifted while the work is proceeding, and turves, the grassy side downwards, should be laid over them. The roughest parts of the soil should be placed over the brickbats, the border being raised about 6 inches above the surrounding level to allow for it settling.

FRUITS UNDER GLASS.

By T. H. C.

Pine Stoves.—During the present and two following months Pineapples require to be accommodated in houses or pits having temperatures adapted to the different stages of growth and the weather conditions prevailing. Excepting for plants carrying ripening fruit a much

lower temperature than heretofore should be afforded them, and consequently less water at the root, just affording as much as will keep the soil slightly moist, and from parting from the sides of the pots. Afford plants now swelling off their fruits a night temperature of 65° to 70°, the lower figure being afforded in very cold weather; by day 75° to 85°, in accord with the weather; bottom-heat of 85°, and a moderately dry atmosphere. Discontinue overhead syringing of the plants, and merely damp the paths and other surfaces during fine weather. Keep these plants continually moist at the roots till the fruits begin to change colour; with the approach of ripeness withhold it altogether.

Succession Pine Stove.—Spring fruiterers should now be resting in a temperature by night of 60° and by day of 65° to 70°, the bottom-heat being 70°. Scarcely any water will be needed at the root until starting time at the beginning of the new year, but it is advisable to have the plunging material in a moist condition, which to a great extent counteracts the evils of a too dry state of the soil. It is necessary that these plants, preferably Queens, should have their fruiting-pots well filled with roots, otherwise they will not be in a fit state to produce fruit of the first size and quality. Younger plants and the suckers that were potted last September should be grown in dwarf pits close up to the glass, and although the soil in the pots should be kept on the dry side, the roots should not suffer; and let sufficient tepid water be applied as will thoroughly moisten the whole ball of soil. Keep the glass clean, so as to admit every ray of sunlight. A covering of mats, if blinds are not available, will help to conserve the heat during frosty weather.

Planting Peaches and Nectarines.—If the planting of a Peach-house be contemplated, the present is a suitable season. In most gardens some trees are grown to a large size against outside south walls, for the purpose of being planted later under glass, and such trees, if lifted with as much soil as will hang to the roots, and planted with care in a prepared border, they will produce a moderate crop of fruit the next year. If aged trees have been cleared out of a Peach-house, a border of about 6 feet in width should be made of fresh compost, and enclosed with a brick wall set in cement, or the old border may be entirely cleared out and a 6-foot-wide border made, enclosing it with a brick wall or a wall made of fresh turves, which can be moved forward as the trees grow. This method is preferable to at once planting trees in large borders, the soil of which may become stale and compact before the roots have taken possession of it. A border need not be deeper than 2½ feet, with an additional 9 inches of rough drainage over a concrete bottom, having proper outlets 18 feet apart, leading into a drain for carrying off the superfluous water. Upon the drainage place fresh turves, grassy side downwards, and over these a compost consisting of roughly-chopped fresh loam, to every cartload of which add a bushel of old mortar-rubble and burnt garden refuse or charcoal, and a good sprinkling of half bones. Avoid deep planting, and spread the roots out evenly in layers of varying depths in the upper foot of soil. Trample the soil firmly about the roots, and finish off with a thorough soaking of water and a 3-inch-thick mulch of decayed manure. In order to obtain a succession of fruits from the same house, early, mid, and late season varieties should be planted, but for the earliest forcing house select only those of the first early section, whereby a considerable time is saved in the production of ripe fruit. The following are six good Nectarines, ripening in the order named—Early Rivers, Cardinal, Lord Napier, Humboldt, Elruge, and Pineapple; and six good Peaches are—Hale's Early, Amaden June, Early Louise, Noblesse, Stirling Castle, and Gladstone.

PLANT PORTRAITS.

SOLANUM CHILIA.—A Brazilian species, with spiny stems and clusters of globose or somewhat flattened berries the size of small Plums, and of a rich shining orange-red colour. *Revue Horticole*, November 1.

CROTON (CODIUM) DUVIVIERI.—A narrow leaved form, brilliantly mottled with carmine. *Revue de l'Horticulture Belge*, November.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher. **Special Notice to Correspondents.**—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, Nov. 17 { Chrysanthemum Shows at Belfast (2 days) and West Hartlepool.
WEDNESDAY, Nov. 18 { York Chrysanthemum Exhibition (3 days), Hull Chrysanthemum Exhibition (2 days), Bristol (2 days).
 { Linnean Society meets.
THURSDAY, Nov. 19 { Scottish Horticultural Society's Chrysanthemum Show at Edinburgh (3 days), Norwich Chrysanthemum Show (3 days), Royal Botanic and Horticultural Society of Manchester's Chrysanthemum Show (3 days).
FRIDAY, Nov. 20—Bolton Chrysanthemum Show.

SALES FOR THE WEEK.

MONDAY to FRIDAY NEXT—Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.
MONDAY, Nov. 16—700 cases of Japanese Lilies, Roses, Azaleas, &c., at Stevens' Rooms, at 3.30.
TUESDAY and WEDNESDAY, Nov. 17, 18—Sale of Ornamental Trees, Fruit Trees, and Shrubs, at Cart House Lane Nursery, Woking, Surrey, by Protheroe & Morris, at 12.
WEDNESDAY, Nov. 18—Azaleas, Rhododendrons, Perennials, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris at 1.—Japanese Lilliums, Palm Seeds, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 5.—Flowering Bulbs, Hardy Perennials, Roses, Azaleas, &c., at Stevens' Rooms, at 12.30.
FRIDAY, Nov. 20—Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 14.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—41°.

ACTUAL TEMPERATURES:—

LONDON.—Nov. 11 (6 P.M.): Max. 53°; Min. 45°.
 Nov. 12 (noon): 53°; sky overcast.

PROVINCES.—Nov. 11 (6 P.M.): Max. 51°, off Cape Clear; Min. 41°, Aberdeen.

CHRYSANTHEMUM exhibitions under the auspices of the National Chrysanthemum Society. National Chrysanthemum Society have so far survived the old Royal Aquarium at Westminster, with its unsavoury associations, that a satisfactory show was held at the Crystal Palace, Sydenham, on Tuesday, Wednesday, and Thursday of the present week. We say satisfactory, but it must not be concluded that the display was so large as recent November exhibitions have been. This could hardly have been expected, and for several reasons. The transfer in itself (although, as we think, a fortunate circumstance), was attended with a considerable degree of uncertainty that lasted a long time, and this was calculated to act prejudicially upon the exhibitions this season. It is urged by some also that an adverse influence was exerted by the fact that the Palace at Sydenham is further from the centre of London, and less convenient to the general body of exhibitors. But probably this effect is over-estimated, and as there is just the possibility that the shows next season may be held in the new Horticultural Hall at Westminster, such influence may not be permanent.

Another alleged reason is the new system of charging entrance-fees to all exhibitors. This innovation, though perhaps necessary

to counterbalance the loss sustained by the discontinuance of the large amount of financial aid that was formerly afforded by the Royal Aquarium Company, has not been accepted by all exhibitors in the gracious spirit that could have been wished. They think that as members of the Society they should be given the opportunity to exhibit in any of the competitive classes they may choose, without payment of any sort. In view of these circumstances, therefore, the Show was certainly satisfactory, though the entries were less numerous. The most important falling off was noticeable in the class for sixty Japanese blooms shown in twelve vases. There were only two exhibits in place of four or five last year, a serious curtailment of an important feature.

The arrangement of the Show by Mr. RICHARD DEAN and Mr. CASELTON in the western nave of the Palace was as good as could be. The vases of blooms were placed on the centre tables, and prevented an appearance of flatness that would otherwise have been noticeable.

The Japanese varieties again predominated, and there were some good flowers, but the season having been so wet, certain varieties, especially those of the Madame Carnot type, were not so fine as usual.

Incurveds were better than we had expected to find them. The other types appear to be less well represented even in degree than recently, and the system of putting several varieties of Anemone blooms into one vase is not calculated to improve their position in the favour of growers who are guided by what they see at these exhibitions. The Single flowers were magnificent. Quite a show could be made of these lovely and brightly-coloured varieties alone. But the specimen plants have nearly gone. Those shown this week were but poor representatives of semi-bush plants; there was not a "trained" specimen there!

The fortunes of exhibitors showed the usual amount of fluctuation. Mr. VALLIS, the young grower who has had such phenomenal success for several years, did not exhibit in any of the large classes, owing, it was said, to damage sustained by his plants from severe gales.

The leading class for Japanese blooms shown on boards was won by Mr. MEASE, gr. to A. TATE, Esq., of Leatherhead; and Mr. MEASE's return to the front rank will be gladly hailed by many of his rivals of ten years ago. Mr. W. HIGGS, of Fetcham Park Gardens, again showed superiority in the culture of Incurved flowers, and, as usual, won the first prize in the class for thirty-six blooms of this type. The exhibit of Japanese blooms in vases by Mr. C. BECKETT, gr. to Sir W. G. PEARCE, Bart., was deserving of all praise. In the class for a floral display of Chrysanthemums, Mr. NORMAN DAVIES, who has won so many times at the Aquarium, was easily first.

The FLORAL COMMITTEE awarded Certificates to six new varieties of Chrysanthemums, including two Japanese, three Incurveds, and one Single.

In the eastern nave there was a great show of poultry, and, according to some of the exhibitors, the noise made in the early morning by the feathered inhabitants was less endurable than anything that had taken place in the old Aquarium!

OUR SUPPLEMENTARY ILLUSTRATION show the view from the great terrace at Versailles, mentioned in a previous issue (p. 233). In the space of a few square inches it is manifestly impossible to convey any adequate idea of the grandiose proportions of the park, nor of the extraordinary profusion of bronze and marble statuary to be seen in it. Much of this is of very high artistic merit, but much of it also is out of place in the open air. The effects of exposure to the weather produce as depressing an impression on the spectator as the Lord Mayor's Show on a rainy day in November. What should inspire admiration is provocative rather of ridicule. This applies to the statues rather than to the vases and fountain basins, of which there are very many, and of noble proportions and fine design. One of these is shown in the accompanying figure and represents Latona, the mother of Apollo and Diana, surrounded by a ring of gilded frogs. According to the myth, the Lycian peasants behaved very rudely and inhospitably to her, for which breach of manners they were changed by Jupiter into frogs and tortoises; and are they not here to this day—and do they not on occasion spout water high into the air, to the delight of the Parisians and in commemoration of the classic myth? It may serve to give some idea of the magnitude of the park when we say that the strip of green turf seen beyond the fountain, and known as the *tapis vert*, measures 335 metres in length by 64 in width.

THE HALL.—It is expected that the new Hall in course of erection for the Royal Horticultural Society will be ready for use in the course of next summer, and that the offices and library on the upper floors will be ready for occupation at the end of next year. In the meantime much depends on the funds which are provided. The advocates for the Hall have hitherto not adequately supported their earnestly expressed opinions by corresponding contributions to the building fund. It is to be hoped that they will lose no time in realising their responsibilities. The funds at the disposal of the Trustees of the Lindley Library are also at a very low ebb. An income of less than £50 does not go far in support of so fine a library. The Trustees would be thankful for financial assistance.

MR. WORTHINGTON G. SMITH.—As an exception to the rule that a prophet has no honour in his own country, we have special pleasure in making the following announcement. Our readers will know how, for considerably more than a quarter of a century, Mr. WORTHINGTON SMITH has laboured in these columns for their benefit, and has secured their warm appreciation. Whilst Mr. WORTHINGTON SMITH receives no more than his due, it will be freely conceded that the inhabitants of Dunstable have done themselves honour in this matter:—

"BOROUGH OF DUNSTABLE.

"HONORARY FREEDOM OF BOROUGHS ACT, 1885.

"A Special Meeting of the Council was held in the Town Hall, on Monday the 9th day of November, 1903, when the following resolution was passed:—

"That in pursuance of the said 'Honorary Freedom of Boroughs Act, 1885,' the Honorary Freedom of the Borough of Dunstable in the County of Bedford be and the same is hereby conferred upon WORTHINGTON GEORGE SMITH, Esq., Local Secretary for Bedfordshire, Society of Antiquaries of London, in appreciation of the eminent services he has rendered to his Country in connection with his profession and his munificent gifts to the Corporation of Dunstable.

"And thereupon to confer upon Mr. W. G. SMITH the Honorary Freedom of the Borough.

C. CRICHTON S. BENNING,
 Town Clerk."

LINNEAN SOCIETY.—An evening meeting will be held on Thursday, November 19, 1903, at 8 P.M., when the following papers will be read:—I. "A General View of the Genus Pinus," by Dr. MAXWELL T. MASTERS, F.R.S., F.L.S.; II. "Contributions to the Embryology of the Amentiferæ," Part II., *Carpinus Betulus*, Linn., by Miss MARGARET BENSON, D.Sc., and Miss ELIZABETH SANDAY, B.Sc.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The monthly Committee meeting of this Society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last, Mr. C. H. CURTIS in the chair. Three new members were elected, making a total of eighty this year to date. Seven members were reported on the sick-fund. The amount of sick-pay for the month amounted to £21 12s.

M. A. SIEBERT.—On October 10, as we learn from the *Revue de l'Horticulture Belge*, this gentleman celebrated the twenty-fifth anniversary of his appointment as Director of the famous Palm Garden at Frankfurt.

"THE BOTANICAL MAGAZINE."—In the editorship of this, the senior of all horticultural periodicals, Sir JOSEPH HOOKER is, as we have already stated, now felicitously associated with Mr. W. B. HEMSLEY. Mr. HEMSLEY's well-tried ability, long experience, and unrivalled opportunities are the best possible guarantees for the continued success of the Magazine. In the November number are figured the following plants:—

Clerodendron cephalanthum, Oliver (see *Gardeners' Chronicle*, 1888, vol. i., p. 652), tab. 7922.—A very beautiful stove climber from Zanzibar. It has stalked, oblong, acuminate leaves, and heads of long, white flowers each about 3 to 4 inches long, with a very narrow tube and a short reflexed, five-parted limb. The calyx-lobes are much shorter than the corolla and of a rosy-pink colour. The protruding stamens are also pink. Kew.

Impatiens falcifer, Hooker fil., tab. 7923.—A Sikkim species with yellow flowers speckled with red spots.

Fendlera rupicola, Engelmann & Gray, tab. 7924.—A native of the arid districts of Texas, Arizona, &c. It is a beautiful shrub, putting forth a profusion of large white or rose-coloured flowers, which give it the aspect of a small Peach-tree. At Kew it grows against a wall, but does not do well in the open.

Sphaerocodon obtusifolium, Benth., tab. 7925.—A climbing or erect Asclepiad from tropical Africa. Leaves oblong, ovate; flowers small, campanulate, with a reflexed five-lobed red limb. Kew.

Iris gracilipes, A. Gray, tab. 7926.—A Japanese species with narrow linear leaves. The violet-coloured flowers are about 2 inches in diameter; the sepals are crested. Cambridge Botanic Garden.

RADIUM AND PLANTS.—In the current number of *Nature* Dr. HENRY DIXON relates the results of some experiments that he has made with a view of determining the effect of the radiations from radium on plants. The result showed a slight degree of retardation in the process of germination, but no other material change.

A POTATO SOCIETY.—An endeavour is being made to establish yet another special society. If for commercial purposes it is desirable to have Potato exhibitions there can be no objection raised, but a "society" which exists for no other purpose than to get up trade exhibitions is surely not wanted. The Potato Conference held at the Aquarium some years ago amply justified its existence; the work done was of a high order, and if the proposed society will work on similar lines it will deserve well of the community.

STOCKTAKING: OCTOBER.—Two satisfactory items characterise the Trade and Navigation Returns for the past month. The first relates to an increase in the value and volume of the imports; and the second, relating to exports, is like thereunto as volume and value are on the upward scale, and so between the pair of records we come to the conclusion that not yet are we stared in the face by ruin. The imports for October amounted to £47,758,188 against £46,854,330 for the same term in the previous year, a gain of £903,858. Both classes of food and drink show an increase, but the following table will suffice to explain:—

IMPORTS.	1902.	1903.	Difference.
	£	£	£
Articles of food and drink—duty free	9,828,540	10,245,167	+416,627
Articles of food & drink—dutiable	10,877,350	11,402,859	+525,509
All other Imports...	26,148,440	26,110,163	—38,278

As usual we note, concerning timber imports, an increase of £224,319, that is to say for last month, £3,246,440 against £3,020,121 for October, 1902. We come now to our fruit record, which is as follows:—

IMPORTS.	1902.	1903.	Difference.
	Cwt.	Cwt.	Cwt.
Fruits, raw—			
Apples	640,739	932,655	+291,916
Apricots and Peaches	441	46	—395
Bananas ... bunches	315,278	264,757	—50,521
Grapes	322,981	263,486	—59,495
Lemons	52,871	83,350	+30,479
Nuts—Almonds ...	32,702	34,564	+1,862
Others used as fruit	87,853	110,933	+23,080
Oranges... ..	116,434	78,579	—37,855
Pears	122,214	52,233	—70,031
Plums	91,079	38,487	—52,592
Unenumerated ...	47,124	70,525	+23,401
Vegetables, raw—			
Onions ... ..bush.	914,754	934,546	+19,792
Potatoes ... ..cwt.	505,956	1,113,664	+607,708
Tomatoes... ..	40,513	42,750	+2,237
Vegetables, raw, unenumerated ...value	£19,980	£16,697	—£3,283

Here it will be seen that Apples, Lemons, Nuts, and "unenumerated" (wholesale these are), show increase—the rest are on the descending scale. The great "plus" in Potatoes will be noted, as also that in Onions and Tomatoes. A Canadian authority says, respecting the Apple crop in Nova Scotia, that the crop for the present year is undoubtedly the largest on record; and there is every probability that the export will exceed by at least 100,000 barrels the great year of 1896, when 409,773 barrels were exported. The figures relating to the imports of the ten months are as follows:—1902, £435,709,350; 1903, £441,904,658—a gain for the present year of £6,195,308.

EXPORTS

next claim a brief space. Their value last month was £25,861,180, as compared with £25,134,831 for October, 1902—a gain for the past month of £726,349. It ought always to be remembered that the volume of the exported goods is considerably increased by the ability to purchase cheaply in a well-supplied market; but this and other items we cannot refer to here. The value for the past ten months is just £243,239,985, against £234,635,502 for the same period in 1902—or a gain of £8,604,483.

THE EDINBURGH SEED TRADE ASSISTANTS' DINNER.—The Ninth Annual Dinner of the Seed Trade Assistants of Edinburgh will be held, under the presidency of Mr. DAVID W. THOMSON, at FERGUSON & FORRESTER'S, 129, Prince's Street, on Friday, December 4. Chair to be taken at

7.30 P.M. prompt. Gentlemen who intend being present are respectfully requested to secure their tickets, which may be had from any of the members of the committee, before Tuesday, Dec. 1, 4s. each.

LIVERPOOL HORTICULTURAL ASSOCIATION.—On Saturday evening the 7th inst., the first paper of the session, in connection with the above Society, was read by Mr. E. F. HAZELTON, Gardener, Knowsley. The subject, "Culture of Pot-Roses," was listened to with interest by a crowded audience; and Mr. HAZELTON touched upon the various methods of propagation, potting, forcing, &c. A good discussion followed and much information given on several points which the essayist touched upon but slightly. A vote of thanks was accorded to Mr. HAZELTON and to Mr. FOSTER for presiding.

PROTECTION IN FRANCE.—It appears from a note in the *Chronique Orchidéeenne*, attached to the excellent *Dictionnaire Iconographique*, of M. COGNIAUX, that the introduction of RICHARDS' XL-All into France is now prohibited. An imitation of the English product does not give such good results, nor does the insecticide known in France as the Foudroyant equal the true XL-All. It is, however, better and cheaper than the imitation, and is likely to be largely employed.

MUNICIPAL HONOURS.—Mr. ROBERT WALLACE has been elected member of the Town Council for the borough of Colchester.

EXETER GARDENERS'.—Mr. COUTTS, gr. to Sir THOMAS ACLAND, at Killerton, gave a lecture on the 4th inst before the members of the Gardeners' Association. The subject was "Stove and Greenhouse Climbers." The selection to be made and the method of treating the plants were appropriately described.

"GARDENING FOR ALL."—We have received a copy of the third edition of this little work on practical gardening. The author is Mr. JAMES UDALL, Chief Horticultural Instructor for Worcestershire, and *Gardening for All* is suitable for use as a manual by amateurs, farmers, and cottagers. The book has been revised and enlarged, and the letterpress is usefully illustrated. The chapter on Drying Fruits and Vegetables, we hope, may be more useful next season, and as the author has had practical experience in the various processes his directions may be followed with confidence. The printing is good, and the type large and easily read. We note that under "Errata" it is said "Felicite perpetue should be Félicité perpetué"; but, as was explained in *Gardeners' Chronicle*, April 19, 1902, p. 260, the name of this Rose is composed of the names of two Christian martyrs, but in ordinary usage the connecting particle "et" is omitted, and the words are therefore nouns in apposition, and should be written "Félicité Perpétue," or, better still, "Félicité-Perpétue." The initial letter of the second word should be a capital, and the accent in the second word should be placed over the second "e." The book is published by MARK & MOODY, County Express Offices, Stourbridge; pp. 1—177; price 1s

PUBLICATIONS RECEIVED.—*Annual Report on the Government Cinchona Plantation and Factory in Bengal for the year 1901—1902*, from Major D. PRIN. Satisfactory as showing progress. —*Annual Report of the Royal Botanic Garden, Calcutta, for the year 1902—1903*, from Major PRIN. "The serviceable area of the garden has been considerably increased. The weather during the year was favourable to vegetation, and the show of Orchids was particularly good." —*Notes sur l'Horticulture en Anjou*, L. AN. LEROY. An interesting account of the horticultural history of the city and of the Horticultural Society therein. —*The Midland Reafforestation Association*. Report of an Association founded last February, with the object of reafforesting waste grounds in the Midlands, particularly in the parts of Staffordshire and Worcestershire known as the Black Country. This was once forest land, and, if planted intelligently, may again be made beautiful, healthy, and profitable. The area under discussion is, roughly, 30,000 acres.

FOREIGN CORRESPONDENCE.

SOME VERSAILLES NURSERIES.

(Concluded from p. 318.)

M. MOSER.—Of a very different but equally interesting character to those already mentioned are the nurseries of M. Moser. They are of large extent and are densely filled with interesting plants. Here it is the Rhododendrons in their thousands which catch the eye first; but as it was not the season for Rhododendrons at the time of our visit, we may pass them over with the remark that they are of all sizes and shapes. Trees and shrubs of the most varied character and interest are here to be seen. Our visit was necessarily a hurried one, so that not a twentieth part of the striking plants we saw can be enumerated, and those that we do mention must be set down in the order that we find them in our hurriedly-made notes, rather than in more orderly fashion. The brilliantly-coloured species of Cornus are most attractive, especially *C. Spaethii*, *C. elegans*, and *Goucholii*, the latter with brilliantly coloured yellow foliage. *Robinia inermis*, with variegated leaves, was attractive. Specially remarkable was a very large pyramidal Tulip-tree, a fastigiate variety we have not seen elsewhere. An Elder (*Sambucus*) with a similar habit and very deep green foliage is also noticeable. *Aesculus sinensis* forms a fine tree, markedly different from the common Horse-Chestnut. *Pernettyas*, for some reason or other, do not produce their fruit well here. In a large bed there were but two or three plants forming their prettily coloured fruits; considering how freely fruit ripens in England, this sterility is somewhat remarkable. Perhaps it may be attributable to the absence, at the right moment, of the right kind of insect to effect fertilisation. *Clerodendron trichotomum*, which we are accustomed to see as a bush, forms here a small standard tree densely covered with its richly-coloured flowers (calyces), which are followed by blue berries. *Caryopteris Mastachanthus* forms fine bushes of lavender-coloured flowers, and is not yet so well known in England as it deserves to be on account of its unusual colouration.

Among Roses, *Zéphyrine Drouhin* was still very conspicuous; in addition to the beauty and fragrance of its flowers it has the merit of being almost absolutely spineless. A Rose better known in England is *Anna Marie de Montravel*, covered with trusses of small white flowers.

Lovers of Conifers will revel among M. Moser's well-stocked nurseries. *Abies arizonica* is the white, corky-barked species introduced by M. Henkel, of Darmstadt. There is a stock of young plants here too young for their merits to be properly estimated. *Cedrus atlantica glauca* and *Abies concolor glauca* are both very beautiful, but as the latter vary much from seed the would-be purchaser should select his plant in the nursery *de visu*. A pendulous form of *concolor* is very handsome. *Abies nobilis glauca* is another fine Silver Fir, and *Cupressus arizonica* is a novelty of which we must see more before we can decide either upon its identity or its merits; *Pinus parviflora* is represented by a short-leaved variety (var. *brevifolia*), and *P. Strobus* by a thin-leaved form called *gracilis viridis*. *Sequoia gigantea* (*Wellingtonia*) attains large dimensions here, as at other places near Versailles. When it does well, the objections made to its somewhat formal appearance are compensated for by its stateliness and the density of its foliage. The trunk, too, with its red fibrous bark, is very striking.

Among the trees is a good-sized specimen of a variety of *Laricio* of dwarf, very compact habit, and dense bright-green foliage. It is, we believe, not yet in commerce, but when it is it will be sought after by those who appreciate effective

trees, and have a feeling for plants that offer special interest and variety.

In our journey from Versailles to Paris we had to pass through this nursery and its annexes, and we were again impressed by the extent and the variety of the establishment, and by the mere fragment of it that we were enabled to see. *The Rambler*, September 21.

HOME CORRESPONDENCE.

PEAR DOYENNÉ DU COMICE.—At this time of year, when many are about to order and plant more fruit trees, I would suggest to amateurs—head gardeners do not need reminding—that they should include this exquisite variety. It is—as many nurserymen catalogue it—the finest flavoured Pear yet introduced (fig. 142, p. 333). Fruit large, pyriform or obovate, juicy, melting, rich, and sweet. If grown against a south wall in the South of England, and in a season with a little more sunshine than this has had, or if grown as standards or pyramids in various aspects, the fruit may be had in season from the middle of October till January when kept in a suitable fruit-room. And although this Pear will mature fairly satisfactorily if grown as a standard or pyramid, yet to grow it to perfection it should be grown against a south wall, preferably as cordons. Wall trees will not only grow large fruits, but they will develop an exceedingly handsome skin. I have just weighed six fruits of Doyenné du Comice, which turn the scale at 4 lb., and I have at the moment of writing a Doyenné du Comice upon my desk which weighs 13 ozs. These Pears are from upright cordons planted two years ago against a south wall. Trees may be planted from 15 inches to 18 inches apart as diagonal cordons when the wall is anything under 10 feet or 12 feet high, which will give a longer space in which to train the trees than if grown upright, and until the trees have reached the top of the wall the side shoots should during the summer be periodically pinched back to three leaves, which will induce the growth of fruit-spurs, and the leader in winter cut back to a third or less, according to the strength of its growth, and when the trees have formed spurs to the height of the wall the summer pruning should be discontinued, or shoots will grow instead of fruit-buds. *H. R. Whitelaw, gr., Bedgebury Park, Kent.*

"THE BOOK OF THE PEACH."—I will repeat my own words, and endeavour to substantiate the remarks the author objects to, as follows:—"It is evident that the author's experience has been gained chiefly where the subsoil was amply drained naturally, for were we to follow his directions as regards drainage, the results would be disastrous, as the maturation of the shoots could not be perfected." It will be observed that the distinction and the difference lie between the words *natural* subsoil drainage, or *artificial* subsoil drainage, and as, on perusing the book, I cannot find any advice upon any artificial subsoil draining, I was justified in assuming the author had naturally drained subsoil. On the other hand, there are some directions (p. 33) for draining the concrete borders above with gutter bricks (which, by the way, I do not consider the best articles to use, either for efficiency or economy). This cannot be termed draining the subsoil, which is really the fundamental principle upon which all effective draining is done, the effects of which are calculated to aerate, dry and warm these non-porous unhealthy subsoils, and consequently the prepared borders lying above. It is needless to say such a system of draining is not required where the subsoils are porous, and thereby naturally drained. So much for borders of forcing-houses. At p. 93, "Peach-growing on walls," it says: "Excavate the prescribed space to depth of 2½ feet, put 6 inches of brickbats or clinkers [we consider the latter most objectionable] in the bottom of each hole, breaking these fairly fine for drainage." Now as there is nothing mentioned about any artificial drain in existence, the only conclusion is that the subsoil is amply naturally drained. This kind of preparation for planting in our case, and in hundreds of others, would result in the holes filling with

water which would remain there for an indefinite time, completely souring and making unhealthy the prepared soil for the roots. It is our practice, warranted by long experience, to run a pipe and rubble drain or drains through the subsoil beneath all borders, and carried to a proper outlet, thereby preventing an intensely cold, wet, clammy dampness holding possession of the bottom part of the borders, causing late growth and consequent unripeness and rotting of such roots as are to be found there. Even in solidly-concreted borders this objectionable cold dampness arises, and is held there by capillary attraction when the subsoil is waterlogged. The other matters referred to (p. 324) could be just as easily explained; but enough has been said to justify my honest and unprejudiced criticisms. I much regret that the author has not accepted them in the same spirit as that in which they were offered. *Your Reviewer.*

A VARIEGATED DOUGLAS FIR.—I send a specimen bunch of one of several variegated Douglas Firs growing in a belt or screen at Long-leat. They are about fifteen years of age, and from the out-of-the-way position in which they stood were evidently planted as ordinary specimens, with a number of others, about the same date. I am not aware that a variegated form has been sent out by nurserymen, and it would be interesting to know if there are many other specimens in existence. There is or was a specimen at Castle Kennedy. At the first glance the trees give one the impression of having been scalded or frost-bitten, and the variegation is certainly more singular than ornamental. *A. C. Forbes.*

DICTAMNUS ALBUS (FRAXINELLA).—I have cut many seeds with a knife, but never found they adhered to the blade more than do other seeds. One very interesting fact is, however, that I have cultivated plants of this species for upwards of twenty years, and every year they produce abundance of seeds, which I sow regularly immediately after ripening, but never a single seed germinates. The derivation of the word "Dictamnus" is absolutely unknown. *M. B., Middelburg, Holland.*

DIANTHUS CARYOPHYLLUS VAR. LA RAVINE.—From a friend in Germany I received a small plant of a variety of *Dianthus Caryophyllus* with very dark-red flowers and an intense odour of Cloves. I have asked several nursery firms in Germany, Holland, and France, but no one knows this variety. Lately I received a note from a friend in France saying that he knows a gentleman who possesses this variety, which he calls *La Ravine*, but he has only a single specimen, which he does not wish to sell or to exchange. Do any of your readers know anything about this plant? *M. B., Middelburg.*

A GERMAN CULINARY FRUIT.—The fruit "Old Subscriber" mentions is that of *Pyrus domestica* (syn. *Sorbus domestica*), the true Service-tree, in Germany called "Speierling." It is at home in Great Britain as well, and may be had from any of the leading nurserymen. In both countries it is found in single specimens only; in Germany, especially in the higher parts of the Rhine valley, chiefly in vineyards. In an unripe state the fruit is very austere and unfit for food, causing painful irritation in the throat; by keeping it or exposing it to frost it turns brown and soft, and has a taste like that of a Medlar. As far as I know, it does not agree with everybody, and this may be the reason why it is not commonly met with. *G. D., Horsell Grange, Woking.*

SPORTIVENESS OF GRAPE-VINES.—Several years ago what promised to be a fine sport from Muscat of Alexandria Grape appeared on an old Vine in the biginery at Chiswick. The sport was just like that of Canon Hall Muscat, but seemed to defy efforts to propagate it for any useful purpose. In relation to a precisely similar sport at Livermore Park, Mr. Tallack does not tell us whether he attempted to propagate it or not. Sports, however, have been common. It is some time since a very fine berried form broke out on, I believe, Alicante at Broxbourne, and at the time it was thought likely to make a remarkable market Grape. I do not hear, however,

of its having been put into commerce. But there is one instance in any case of a Muscat sport being fixed and propagated; that occurred in one of the vineries of Mr. William Cole, of Feltham, a veteran Grape grower, several years since. He propagated it successfully, and now has numerous fruiting Vines, the bunches being large, as are the berries, but, unlike Canon Hall, it is a capital setter. It is evidence of the appearance and quality of the variety that it ripens earlier and obtains a higher price in the market than do the best "Alexandrias." A. D.

NERTERA DEPRESSA.—I was very interested in reading Mr. C. J. Ellis's note on the above plant, p. 325, and am glad to find that it is grown in the open in other gardens besides my own. At Stanmore, where Mr. Ellis says there is a fine lot established at the foot of a rocky bank, I imagine it must be fairly cold in the winter compared with South Devon; and if it luxuriates in the climate of Middlesex, there seems no reason why this charming little plant should not be grown in all gardens in the South of England. My clump has been bright with its orange-coloured berries for fully four months, and even now it still retains a dozen or so. I should have made an exception when I wrote that I had failed to meet with it in gardens in the open, for, about thirty years ago, I saw it growing finely in a Somersetshire vicarage garden, but since then I have never met with it. S. W. Fitzherbert, South Devon.

SIDALCEA HYBRIDA ROSY GEM.—At a recent meeting of the Royal Horticultural Society the Floral Committee had before it an exhibit bearing the name "Sidalcea candida Rosy Gem," a somewhat curious title to say the least. I expressed the opinion at the time that the plant was probably a cross-breed between *S. candida* and *S. malvaeflora*, and this indeed would appear to be the case. Since the plant received the Award of Merit to which it was justly entitled, I have had an opportunity of seeing the original plant and of comparing its varied leafage side by side with that of *S. candida* and of *S. malvaeflora* in Messrs. T. S. Ware's, Ltd., Feltham Nurseries. The large flowers and the habit of flowering are those of *S. candida*, the leaf-growth and the basal leaves more particularly showing unmistakable traces of the influence of *S. malvaeflora*. The greater leaning is to *S. candida*, and the newcomer has not only large flowers of this, but the free branching manner of production. The plant occurred as a chance seedling, and is among the most meritorious of this season's novelties. Indeed, if we except the fringed-petalled *S. heteri*, also a good plant too little known, we have little of the colour of the new "Rosy Gem" in late summer and autumn-flowering plants. It is a plant that growers of choice perennials should make a note of. E. Jenkins, Hampton Hill.

CLERODENDRON FALLAX.—A feature of interest at King's Ride, Ascot, on the occasion of a recent visit, was a batch of this fine old garden plant. The brilliant colour of the flowers, together with the bold character of the leaf when well grown (preferably from seed sown in early spring, as in this case) make this plant worthy of being grown for decoration in the autumn. W. F.

WILD FRUITS.—The remarkable scarcity of fruit, which, from the reports published in the *Gardeners' Chronicle*, appears to be general, is also as marked among the wild fruits of our woods and hedgerows as in the cultivated varieties; consequently the outlook for winter's food among the fruit and seed-eating birds must be rather a sorry one. Haws, Acorns, Dog-Rose berries, nuts, Yew-berries, and Beech-mast are very short crops; and there are no Sloes. Several Rowans growing close by, that are usually so laden with their bunches of bright orange berries that the branches become quite pendulous from their weight, have had their scanty crop of a few scattered bunches cleared off a long time ago by the thrushes and blackbirds before the berries were fairly coloured; and the Elder-berries have also disappeared in like manner. Blackberries flowered profusely, and are slowly ripening a good quantity of small-sized fruit; but this seems to be the one exception among the wild fruit of this district. J. P., East Gloucestershire.

BEGONIA GLOIRE DE LORRAINE.—This popular autumn and winter-flowering Begonia was represented at King's Ride, Ascot, in considerable numbers, and the light and graceful manner in which the plants were trained by Mr. Lane was in pleasing contrast to the bushy form so often adopted with this plant. W. Fyfe.

APPLE JAMES GRIEVE.—Those who have not added this fine Apple to their collection could not do better than make room for it now. I have just gathered fruit from cordons on a south wall, and no one could wish to store finer Apples. Its appearance is of a beautiful yellow, and worthy of all praise; and its flavour is first-rate. We have also some trees in bush form which have given highly-finished fruit. All our trees are well set with fruit-buds, and indicate a fine display of blossom next year. Other sorts which have done well here were—Cox's Orange Pippin, Cox's Pomona, Devonshire Quarrenden, Gascoygne's Scarlet, Irish Peach, Lady Sudeley, Lane's Prince Albert, Ribston Pippin, The Queen, Worcester Pearmain, Blenheim Orange, Ecklinville Seedling, Peasegood's Nonsuch, Stirling Castle, and Warner's King. I am glad to say, as few gardeners can do, unfortunately, that our fruit-room is better stocked than I have seen it for some years. Henry Henderson, Cromarty House Gardens, Cromarty, N.B.

A REMINISCENCE.—I am venturing to put on paper a few thoughts of my visit to the Chiswick Show and the Gardeners' Dinner. Not having journeyed South for some years my motives in going were, like those of most humans, of a mixed character. I was wishful to have a good look at the Chiswick Gardens, having only done this once in nearly forty-eight years' garden experience. The conclusion I came to was that as a head-quarters for the Royal Horticultural Society there was something wanting; no doubt that something is mainly caused by the local environment. While there was evidence of good culture and care all round, I saw only one thing that "stood out" beyond what may be seen in any well-managed large garden, that one thing being the Vines in the large vinery. Being planted outside the house they had evidently enjoyed the copious rains of the past season. To my mind it was conclusive that the Council of the Royal Horticultural Society are doing the right thing in making the most of their declining tenure and leaving Chiswick. Not knowing anything of the possibilities of Wisley my opinion on this part of the subject is of no use. All the same, I am strongly of opinion that if the Society is to continuously hold its own, it is absolutely necessary it should have a well-managed garden somewhere as a permanent object-lesson for its subscribers and horticulturists in general. Whether this Mecca is close to a railway station or not, most of the faithful will find their way there from time to time. The Hall is a necessary adjunct to its real work, but no more. [What about the library and offices? Ed.] The show was a revelation to me from two standpoints. First, as to vegetables. They were excellent, both in quality and in the way they were exhibited. Without going into details I must add that the exhibits of Messrs. Beckett, Gibson, and Bowerman were far beyond anything I had seen or imagined. Hardy fruits, too, were very fine considering the wet dull season. The pot-trees, Peaches, Plums, Apples, and Pears, I thought afforded the best bit of cultural skill in this department. It may here be added that the writer has not seen an autumn fruit show in London since 1868. Indoor fruit, while of a good general quality, did not come up to my expectations. As to the dinner, my friends tell me I am somewhat of a moody man, which may be true. Anyhow, during the winter evenings especially I occasionally have a sort of mental cinematograph in front of the dying fire. The pictures are of those whom I have met in my gardening career, and of those whom I have read about in the horticultural press. The latter I make up for the occasion. As the gardeners' dinner was to give me the opportunity of seeing some of both in the flesh, I looked forward to it with much interest, and was not wholly disappointed. It was a pleasure to grip once again the hands of several whom I had not seen for fully thirty years; the pleasure was not less to be introduced to a few

whom I had not personally known, and to have pointed out to me other horticultural celebrities. When in the reception-hall I could not help remarking to one of, if not the leading gentleman connected with the horticultural trade, that no other trade or profession where the workers were drawn from the same strata in life could present such a body of intelligent, well-conducted men. The next time a similar function is brought about, I venture to suggest that, with the exception of the chairman, all the speakers should be limited to a certain time, in no case to be exceeded. Most men on occasions like this could easily condense their thoughts if they really tried to do so, and yet achieve the purpose in view. Yorkshire Gardener.

SOCIETIES.

ROYAL HORTICULTURAL.

NOVEMBER 10.—On the above occasion the floral display was much in advance, as regards the number and quality of the exhibits, of the usual November meetings. The mild weather tempted the cultivators of Orchids to send of their treasures, and Chrysanthemums, Tea Roses, zonal Pelargoniums, Begonias, were shown in plenty. As the day wore on the number of visitors increased. The Fruit Committee had an exceedingly light task in adjudicating upon the exhibits that came under its cognisance.

Floral Committee.

Present: In the chair, H. B. May, Esq.; and Messrs. G. Nicholson, C. T. Druery, J. Walker, Amos Perry, J. Jennings, W. Howe, G. Reuthe, C. R. Fielder, C. Dixon, C. Jeffries, H. Cutbush, C. Pearson, C. E. Shea, W. P. Thomson, E. H. Jenkins, W. J. James, J. W. Barr, Rev. F. Page Roberts, Ed. Mawley, and R. W. Wallace.

Mr. F. W. SMITH, The Hollies, Weybridge, exhibited a remarkable collection of cut blooms of single flowered Chrysanthemums set up in small vases of varied height, and bigger ones filled with autumn foliage of Beech, fronds of dry bracken, Privet in berry, Grasses, &c. The top of the table was covered with the foliage of *Ampelopsis Velutina*, berried shoots of *Arbutus*, fungi, and prettily coloured leaves of the Grape Vine. Arranged round the large vases were placed mounds of ornamental gourds, and round the smaller ones a ring of gourds only (Silver Banksian Medal).

Miss ADAMSON, South Villa, Regent's Park (gr., Mr. G. Kelf), showed an extensive group, containing some fine plants of Japanese Chrysanthemums (mentioned fully elsewhere in the report), likewise numerous plants of *Begonia Gloire de Lorraine*, *Euphorbia pulcherrima*, *Codiaeums*, *Dieffenbachias*, *Dracenas*, large and small Palms, Maidenhair Ferns, and edged with small plants of *Begonia Gloire de Lorraine*. It was effective, but more efficient grouping of colours seemed desirable (Silver Flora Medal).

Mr. T. S. WARE, Nurseries, Feltham, exhibited a group of hardy flowering plants in season, such as perennial Asters, Pentstemons in good condition, *Arundo donax*, *Schizostylis coccinea*, very bright and good, as is the case generally in moist years; *Nerines*, *Sidalcea candida Rosy Gem*, *Tritoma Burchellii*, *Scorilla galacifolia* just showing buds, *Linaria trionithophora*, an old inhabitant of the garden.

Messrs. J. CHEAL & SONS, Lowood, Crawley, exhibited coloured foliage, consisting of Japanese Asters, *Quercus coccinea*, Ribes, Liquidamber, *Berberis Thunbergii*, *Azalea mollis*, *Prunus pissardi*, *Rhus Cotinus*, *R. typhina*, &c.

Messrs. W. BULL & SONS, King's Road, Chelsea, showed a group of interesting and new plants, including *Ceropegia Woodii*, showing its small curious flowers and speckled leaves; several *Marantas*, viz., *M. insignis*, *M. picta*, and *M. tigrina*; some handsome *Selaginellas* including *Wallichii*; *Lamprocarpus Weibachii*, with a scarlet shaft and bracts, and purplish flowers not yet expanded; *Polypodium iridides ramo cristatum*, *Aralia elegantissima*, and two species of *Demonorops*.

Messrs. J. VEITCH & SONS, Royal Exotic Nursery, Chelsea, S.W., showed leaves of several new species of *Vitis* from Central China; these were remarkable in the case of the larger leaves for striking colouring, and differed from anything we have previously observed among *Vitis*.

Mr. G. REURNE, Hardy Plant Nursery, Keston, Kent, showed varieties of *Nerines*, some of which were Certified at the Royal Horticultural Society's meetings five or six years ago. The object of the raiser was stated to be the obtaining of late flowering varieties.

E. AUGUSTUS BOWLES, Esq., showed *Crocus caspicus*, flowers white; *C. c. var. lilacinus*, and *C. Cambessedesii*, pale lilac.

Messrs. J. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, displayed a great number of healthy, vigorous plants of zonal Pelargoniums, consisting of the finest varieties in cultivation of these useful winter flowers (Silver Banksian Medal).

Mr. G. PRINCE, Longworth, Berks, exhibited a group of beautiful Tea and hybrid Tea Roses; many of the buds and half-opened flowers were the perfection of form (Silver Banksian Medal).

Messrs. J. HILL & SON, Barrowfield Nurseries, Lower Edmonton, staged a considerable number of specimen Ferns—an interesting exhibit of various species. We remarked a large number of the Bird's-nest Fern in great vigour, and of *Acrostichum* of various species, including aureum, sorbifolium, scandens, and crinitum (Silver Flora Medal).

Messrs. W. CUTBUSH & SON, Nurseries, Highgate and Barnet, showed perennial Asters, autumn Croci, *Mecanopsis*, *Sarracenias*, *Skimmias*, *Tritoma Uvaria*, *Pernettya mucronata*, and other autumn berry-bearing and flowering hardy plants.

JOHN RUSSELL, Richmond Nurseries, Richmond, Surrey, had a considerable exhibit of hardy berried evergreens, *Hedera*, &c., such as he has showed on several occasions of late (Silver Banksian Medal).

AWARDS OF MERIT.

To Messrs. WELLS & CO., Earlswood, Redhill, for Japanese Chrysanthemum, *W. A. Etherington*, a massive flower of a silvery-mauve tint; and single-flowered Chrysanthemum, *Kitty Bourne*, a free-flowering bright yellow, useful for cutting.

J. T. BENNETT-PLE, Esq., exhibited *Nerices*, viz., *atrorubens* of a bright scarlet tint, corymb tall, and above the usual size; *Miss Woolward*, of a pink colour, having a stripe of a deeper tint running up the segments; *Miss Moore*, a flower of deep crimson, the corymb close and compact.

CHRYSANTHEMUMS.

Messrs. WELLS & CO., Earlswood, made a large display of Chrysanthemums, including representatives of all the various sections. The singles and other decorative sorts were very effective, and in the large Japanese were some very fine blooms. Of these *Lord Hopetoun*, rich crimson, gold tipped; *W. Duckham*, pink; *Donald McLeod*, yellow; *Leila Filkins*, pink, and *Gen. Hutton*, yellow, were very good. Of incurveds, *Mrs. J. Seward*, yellow; *Miss Mildred Lyne*, bronzy-yellow; *Mrs. F. Judson*, white; *Cecil Cutts*, deep yellow, and *Pearl Palace*, blush, were all good. In the decorative varieties *Market Red* was worth notice. The single varieties were chiefly unnamed seedlings, but included some very pretty things.

Two new incurved varieties, *T. C. Brock*, and *Bernhard Hankey* (red), may prove valuable additions to this section, which is now much favoured by exhibitors. A distinct *Anemone*-flowered variety, *Mrs. Harry Elard*, deep pink, with a mauve shade, large, well formed flowers, should be useful (Silver Flora Medal).

In the group set up by Mr. G. Kelf, gr. to Miss ADAMSON, South Villa, Regent's Park, some handsome flowers of Chrysanthemums were shown; among the other plants we observed the varieties *S. Carrington*, *Mrs. White Popham*, and *Mutual Friend*.

A big table group of Chrysanthemums, mostly of the Japanese section, was shown by Lady PLOWDEN, Aston Rowant House, Ascot (gr. Mr. W. H. Clarke). Many of the flowers were of great size, and others were single flowered, or consisted of decorative varieties. A creamy-whitesport from *Nellie Pockett*, a nice, pleasing tint, with the form of the parent. The flowers were in no case "dressed" nor in any way "improved" by the hand of the cultivator, and the whole exhibit was exceedingly creditable to the exhibitor.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (hon. sec.), E. Ashworth, W. H. White, W. H. Young, W. Boxall, H. J. Chapman, T. W. Bond, J. Charlesworth, A. A. McBean, F. W. Ashton, J. Colman, G. F. Moore, F. Wellesley, W. Cobb, H. Ballantine, and W. A. Bilney.

As at the last meeting there was again a very large show of Orchids.

JEREMIAH COLMAN, Esq., Gatton Park (gr. Mr. W. P. Bound), showed an extensive and well-arranged group, for which a Silver Flora Medal was awarded. In the centre was a fine specimen of *Cymbidium Traceyanum*, with two spikes, each of sixteen flowers.

J. BRADSHAW, Esq., The Grange, Southgate (gr. Mr. Whitelegge), whose collection is famed for its fine set of white varieties of *Cattleya labiata*, staged a group for which he was voted a Silver Flora Medal, which was largely made up of fine varieties of *Cattleya labiata*. The finest of the coloured forms possessed a singularly developed ruby-purple lip, looking much like *L.-C. x Pallas*. Others noted were fine forms of *C. x Mrs. J. W. Whiteley*, *C. x Mantini*; and among the *Lycastes* the large and delicately-tinted *L. Skinneri Enchantress*, a very handsome variety.

Messrs. JAS. VEITCH & SONS, Chelsea, secured a Silver Flora Medal for a fine group, at one end of which was a small batch of the yellow *Cypripedium insigne* *Sanderæ* and a plant of the large *C. i. Harefield Hall*. Among the hybrids of interest was a set of the hybrids of *Lælia Perrinii* raised by Messrs. Veitch, and many others.

Messrs. CHARLESWORTH & CO., Heaton, Bradford, were awarded a Silver Flora Medal for an excellent group of their hybrid Orchids.

Messrs. SANDER & SONS, St. Albans, were awarded a Silver Flora Medal for a good group, in which were a fine collection of *Cypripediums*, many of them but little known. The novelties were *C. x Cassandra* (callosum \times superbiens), a very pretty flower; *C. x Dido* (insigne *Bohnhoffianum* \times villosum), a large yellowish flower with a distinct dorsal sepal; *C. x Louis Sander*, a finely-formed distinct hybrid; and *C. insigne* *Cygnus*, very good in the *nitens* class; and a well-flowered plant of the singular *Zygopetalum* *Torisanum*.

Messrs. HUGH LOW & CO., Enfield, received a Silver Flora Medal for a good group, in which the forms of *Cattleya labiata*, which included the white *C. i. Amesiana* and the blue-tinted *C. i. glauca*, were of excellent quality. A novelty in the group was a small plant of *C. bicolor* *Mrs. M. A. Gratrix*, with greenish sepals and petals, and a pale slate-blue lip.

H. L. BISCHOFFSHEIM, Esq., The Warren House, Stanmore (gr. Mr. C. J. Ellis), was awarded a Silver Banksian Medal for a group consisting of *Cattleya labiata*, *C. aurea*, *Odontoglossums*, *Cypripedium Spicerianum*, *Oncidium varicosum*, &c. A curious *Odontoglossum*, said to be a natural hybrid of *O. Wallisii*, was shown as *O. x Mrs. Bischoffsheim*.

G. CLAYTON, Esq., Wylam Hall, Wylam-on-Tyne (gr. Mr. J. Bean), was awarded a Silver Banksian Medal and Cultural Commendation for three marvellously well-grown *Calanthes* \times , two *C. x Kenneth*, and one *C. x Wm. Murray*, sent as examples of his stock of them. The plants had enormous bulbs, large perfect leaves, and very strong spikes of good flowers, and were certainly the finest examples of the kind yet shown.

Mr. A. A. PEETERS, Brussels, staged a group of distinct hybrids, for three of which see "Awards." The others were *Cattleya x Rembrandt* (*labiata x elongata*), with terminal heads of rose coloured blooms, better than those of *C. elongata* (*Alexandræ*); *C. x Fabia*, *Peeters' variety*, rich in colour; *C. x Fabia Mary de Wavrin*, for which he received an Award of Merit at the last meeting; four plants of *Cattleya x Goossensiana*, and *C. x G. inversa*, the former having the lip shaped like *C. Schilleriana*, and the latter like *C. labiata*; the finely-coloured *C. x Peetersi* (*labiata x Hardyana*), and a seedling (*L.-C. x elegans x C. Hardyana*), with a finely-formed prettily-marked flower. *C. x Imperator* (*granulosa x labiata* *Peetersii*) was also shown.

NORMAN C. COOKSON, Esq., Oakwood, Wylam (gr. Mr. H. J. Chapman), sent *Odontoglossum crispum* *Elainii*, a well-formed, not large, but finely spotted flower, with a slight indication of *O. x Adriane*.

W. THOMPSON, Esq., Walton Grange, Stone, Staffordshire (gr. Mr. W. Stevens), showed his fine *Odontoglossum x Waltonense* (*polyxanthum x crispum*), for which he had already been awarded a First-class Certificate. Its large yellow flowers with fine red-brown blotches on the sepal and lip were even better than when first shown; also *O. x lochristiense tenebrosa*, home raised, densely blotched with chocolate.

ELIJAH ASHWORTH, Esq., Harefield Hall (gr. Mr. Holbrook), showed *Cypripedium x Mrs. A. W. Sutton* (*niveum x Chamberlainianum*).

Messrs. FISHER, SON, & SIBBAY, Handsworth, Sheffield, sent *Cypripedium x Memnon* (*Charlesworthii x Spicerianum*), a very pretty hybrid, with the greater part of the dorsal sepal white.

Messrs. J. & A. A. McBEAN, Cooksbridge, showed *Cypripedium x Violetta* (*Charlesworthii* and *venustum*), with a large rose-pink dorsal sepal.

FRANCIS WELLESLEY, Esq., Westfield, Woking, showed two good yellow forms of *Cypripedium insigne*, and *C. x Ville de Paris* (see Awards).

G. F. MOORE, Esq., Bourton-on-the-Water, showed *Cypripedium insigne* var. *bispala* in which the enlarged lower sepals were partly white, as in the dorsal sepal.

Sir FREDERICK WIGAN, Bart., Clare Lawn, East Sheen (gr. Mr. W. H. Young), showed *Cypripedium x Muriel Hollington*, and *Cattleya labiata* *Amesiana*.

Awards.

FIRST-CLASS CERTIFICATE.

Lælio-Cattleya x Bletchleyensis Ruby King, from Sir H. SCHRODER, Bart., The Dell, Egham (gr. Mr. H. Ballantine).—A noble flower with light purple sepals and petals, the former delicately tinged with golden-yellow. Lip large and finely crimped, ruby-purple at the base, lighter towards the front.

Cattleya x Hardyana albens, Peeters' var., from Mr. A. A. PEETERS, Brussels.—A beautiful flower, with white sepals and petals very slightly tinged with lavender colour. Lip crimson with gold veining at the base and two light patches on the disc. Near to *C. x Leopold II.*, figured in *Lindenia*.

AWARDS OF MERIT.

Cymbidium x Wiganianum (*eburneum x Traceyanum*).—From Sir FREDERICK WIGAN, Bart. (gr. Mr. W. H. Young). Flowers as large as those of *C. Traceyanum*, and with a distinct resemblance to that species in the large hairy labellum; cream-white with slight dotted lines of purple on the sepals and petals, and heavier red-brown markings on the lip.

Cypripedium x Ville de Paris (? *C. x Sallieri x C. insigne* *Harefield Hall*), from FRANCIS WELLESLEY, Esq., Westfield (gr. Mr. Hopkins).—A massive flower, in relation to *C. x Sallieri aureum* as *C. insigne* *Harefield Hall* variety is to *C. insigne*. Flowers yellow with a polished surface, and profusely marked with purplish-chocolate. Upper part of the dorsal sepal white.

C. x Fulshawense (*Boxalli x insigne* *Harefield Hall*), from ELIJAH ASHWORTH, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook).—A fine hybrid, with a distant resemblance to *C. insigne* *Harefield Hall*. Dorsal sepal large and well formed, greenish at the base, closely spotted with dark purple; upper portion white.

Lælio-Cattleya x Wrigleyi (*L. anceps x C. Bowringiana*), from M. A. A. PEETERS and Messrs. VEITCH. Flowers like those of *L. anceps* but larger and with traces of the more tubular form of the lip as in *C. Bowringiana*; bright purplish-rose with dark reddish-purple lip, the variety shown by Messrs. VEITCH having a white base.

Cattleya x St. Gilles (*Patrocinii x aurea*), from M. A. A. PEETERS, Brussels. A very bright and distinct hybrid with rose crimson flowers, with golden veining on the lip, the front of which is very bright.

Fruit and Vegetable Committee.

Present: Mr. G. Bunyard, Chairman; and Messrs. J. Cheal, H. Esling, S. Mortimer, A. Dean, J. McIndoe, G. Kelt, H. Markham, G. Reynolds, G. Wythes, F. Q. Lane, J. Willard, J. H. Veitch, G. Norman, and W. Poupard.

Mr. A. Chapman, gr. to Captain HOLFORD, Westonbirt, sent a middling-sized oval, whitish but handsome Melon named *Westonbirt Seedling*. The flesh was green, excessively luscious, and deliciously flavoured. Parentage could not be stated as it had been grown three or four years. For November the variety was one of the richest-flavoured Melons any of the Committee present had tasted. Award of Merit unanimous.

Mr. W. Allan, gr. to Col. HARBORD, Gunton Park, Norfolk, sent nice fruits of his fine Apple, Norfolk Beauty, previously certificated.

Mr. R. JORDAN, Lanway House, Godalming, had a seedling Apple *Robert Jordan* somewhat resembling *Cockle Pippin*, but much less good.

Mr. S. MOODY, Charlton, Salisbury, sent a seedling Potato unnamed; tubers white, long, flatish, and of fairly good appearance. It was requested that tubers be sent for growing at the new Chiswick Garden next spring.

Mr. E. POTTEN, Camden Gardens, Kent, sent a couple of small Apples for name. The variety was thought to be *Baron Ward*.

From Mr. G. AMBROSE, of Cheshunt, again came bunches of the new Grape *Melton Constable*. One bunch grown on a strong Vine had very large berries like those of *Gros Colmar*, lacking colour, but being less watery and more pleasant eating. It does not, however, seem that the Grape is a late keeper, as is the case with *Alicante*. The Committee wish to have a Vine planted with *Gros Colmar* and *Black Alicante* at the new Chiswick for trial.

Messrs. COOPER, TABOR & CO., Southwark Street, S.E., had samples of a long white Radish for winter

use, sliced with salading, from Japan. Some roots not unlike those of the long rooted Turnip were 8 to 9 inches long.

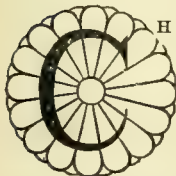
The Lecture.

THE ADVANTAGES AND EVILS OF SIZE.

In the afternoon a paper by Mr. E. T. Cook was, in the absence of that gentleman, read by Mr. A. Dean. The Council on this occasion was well represented by the President, Sir Trevor Lawrence, Bart., Rev. W. Wilks, Mr. Harry Veitch, and Mr. George Bunyard. When the new Hall is completed we trust the acoustic properties may be found superior to those of the Drill Hall, and that more pains will be taken to ensure the comfort of the lecturer and of his auditory. The gist of Mr. Cook's paper was that in all things quality should be considered before size, in which opinion Mr. Cook is not likely to be alone!

NATIONAL CHRYSANTHEMUM.

NOVEMBER 10, 11, 12.



CHRYSANTHEMUMS were in full bloom this season before the Dahlias and other flowers in the open borders have been cut down by frost. Consequently as market flowers the Chrysanthemums were of less value than usual. The following is a report of the exhibition of the National Chrysanthemum Society, held at the Crystal Palace, Sydenham. Our general remarks will be found on p. 338, the more detailed report follows:—

AWARDS BY THE FLORAL COMMITTEE.

The Committee met at 1 o'clock P.M. on Tuesday, when the following awards were made:—

Incurved, Mrs. Barnard Hankey.—A very large and full bloom, with good florets, reddish on upper surface and buff or bronze underneath, which alone is seen. Shown by Mr. W. HIGGS (First-class Certificate).

Incurved, Miss A. Dighton.—A full-sized bloom of pale yellow colour. Shown by Mr. W. HIGGS (First-class Certificate).

Japanese J. H. Silsbury.—This is a reddish-coloured variety with bright buff reverse; the florets are broad and spoon-shaped at the tip. Shown by Mr. SILSBURY, Providence Place, Shanklin (First-class Certificate).

Incurved W. Paez.—A large, rather loosely-built flower, with blunt-pointed florets, colour silvery-rose. Shown by Mr. ELLIMORE, gr., Canons Park, Edgware (First-class Certificate).

Japanese Mrs. J. Dunn.—A milk white flower, faintly tinted with cream in the centre, in build very similar to F. S. Vallis. Shown by Mr. H. J. JONES (First-class Certificate).

Single flowered Miss Jessie Dean.—Of moderate size, colour bright rose, with white zone round disc. Shown by Mr. H. J. JONES (First-class Certificate).

Single flowered Pink Beauty.—A large-sized pink-coloured flower. Shown by Mr. H. REDDEN, Manor House Gardens, West Wickham (Commended).

Competitive Classes.

FLORAL DISPLAY.

In the old Aquarium the floral displays were made around the large fountains, and some of the exhibits that were there made were very imposing. At the Palace exhibition the first class was for a display of Chrysanthemums and suitable foliage plants in pots, also cut blooms and cut foliage, to be arranged on the floor in a circular space of 3.0 superficial feet. There were only two such groups shown, one by Mr. NORMAN DAVIES, Framfield Nurseries, Uckfield, Sussex, and one by Messrs. J. PEED & SONS, Roupell Park Nurseries, West Norwood. Mr. DAVIES won 1st prize easily. His arrangement included a cone-shaped group of Chrysanthemums and other plants, in the centre crowned by a plant of Cocos Weddelliana. Around this was a broad band-like group not more than 2½ feet high, consisting of Ferns and fine foliage plants, through which were 'starred' large cut specimens of first-rate Chrysanthemums. Opposite to each other at the extreme margin were placed great tub trumpet-glasses, several feet high, containing Chrysanthemum blooms, and midway between these, also at the margin, two very large and handsome vases, containing blooms. The effect was good. Among the varieties of Chrysanthemums that were most prominent were Bessie Godfrey, Calva's Sun, Madame P. Radaelli, Mrs. A. R. Knight, Marie Brunning, Miss Stopford, F. S. Vallis, General Hutton, &c. Among the novelties was a very

fine yellow-coloured Japanese, with large, spreading, but refined florets having spoon shaped tips; Mrs. A. H. Lewis, a vinous, purple-coloured Japanese, &c. Messrs. PEED & SONS arranged their group as a good pyramid.

CLASS FOR SOCIETIES.

This affords an opportunity for the affiliated societies to compete with each other in showing the best collection of forty-eight blooms, consisting of twenty-four incurveds and twenty-four Japanese, distinct. There was only one exhibit in this class, which formerly proved of considerable interest, and which brought together several societies in friendly rivalry. It is permissible for several members of any one society to unite for the purpose of making a collective exhibit, but on this occasion the blooms shown by the EPSOM AND DISTRICT CHRYSANTHEMUM SOCIETY were all grown by PANTIA RALLI, Esq., Ashstead Park, Leatherhead (gr., Mr. G. J. HUNT). There was little to choose between the Japanese and incurved blooms; each type was represented in good style, some of the Japanese, like F. S. Vallis, Mrs. E. Hummel, Ben Wells, Madame Carnot, Godfrey's Pride, and Mrs. Birkley, being so large that a visitor's remark, "The boards are not sufficiently large to display the blooms perfectly," seemed appropriate. The best of the incurveds were C. H. Curtis, Mrs. C. Crookes, Islene, Hanwell Glory, Robt. Petfield, Lady Isabel, Miss N. Threlfall, &c.

CUT BLOOMS EXHIBITED IN VASES.

Twelve vases of five Blooms each.—In this class for exhibits of twelve vases each containing five blooms of a Japanese variety of Chrysanthemum, distinct, there were only two exhibitors, showing a considerable falling off in a class that for several years past has held the greatest degree of popularity. The 1st prize, consisting of ten guineas and the Sir Ed. Saunders' Memorial, was awarded to Mr. Chas. Beckett, gr. to Sir W. G. PEARCE, Bart., Chilton Lodge, Hüngherford, and his collection, together with that which won the 2nd prize, afforded the best effect in the show. The varieties in Mr. BECKETT's exhibit were General Hutton, Mrs. J. Bryant, Mrs. W. Mease, Mrs. F. W. Vallis (excellent), Mr. F. W. Vallis (also very good), Mrs. Berkeley, Mrs. A. R. Knight, W. R. Church, Madame C. Nagelackers (a very good white variety), J. R. Upton, George Penford, and Madame Pao's Radaelli. The flowers generally were exceedingly good. 2nd, Mr. R. Kenyon, gr. to J. R. TWENTYMAN, Esq., Monkham, Woodford Green. The varieties Duchess of Sutherland, Mrs. Barkley, Kimberley, and Australia were among those shown.

Six Vases of Incurved Blooms.—This was a special class, in which the prizes were offered by Messrs. Mackenzie & Moncur, the firm of horticultural builders and engineers, and called for six vases of incurved blooms, each vase to contain five blooms of a distinct variety. There were three exhibits, and Mr. W. HIGGS took the 1st prize, showing good specimens of the following varieties, Duchess of Fife, Hanwell Glory, Lady Isabel, C. H. Curtis, Nellie Southam, and Mrs. Barnard Hankey, a new variety, mentioned under Awards. The 2nd and 3rd prize-winners were Mr. G. HUNT and Mr. W. L. BASTIN.

Thirty blooms of ten varieties.—The prizes in this class were presented by Mr. W. J. Godfrey, Exmouth Nurseries, Devonshire. Mr. R. KENYON won 1st prize, and all the varieties staged were introductions from Mr. Godfrey's nurseries at Exmouth, since and including the year 1900. There were three varieties in a vase, and the effect therefore, in our mind, was not so agreeable as in the other "vase classes." The exhibits served well to illustrate the great merit of many of these excellent English seedlings raised by Mr. Godfrey, such as Kimberley, Godfrey's Pride, Exmouth Riva, Sensation, Queen Alexandra, Wilfred H. Godfrey, Mafeking Hero, Bessie Godfrey, Godfrey's King, &c. 2nd, Mr. A. Jefferies, gr. to JOHN BALFOUR, Esq., Moor Hall, Harlow, Essex.

Six Japanese blooms, white.—The best white Japanese variety shown in vases containing six specimens was that of The Princess, exhibited by Mr. W. G. PRUDENS-CLARK, York Road, Hitchin; 2nd, Nellie Pockett, shown by Mr. G. A. KING; and 3rd, Guy Hamilton, by Mr. George Wilson, gr. to E. T. POWELL, Esq., Rose Dene, Christchurch Avenue, Bromdesbury Park, London.

Six Japanese blooms, yellow.—The 1st prize was awarded to the variety J. R. Upton, the 2nd prize to that of F. S. Vallis, and the 3rd prize to that of Mrs. Mease.

Six Japanese blooms of one variety, any other colour than white or yellow.—1st, the variety Mrs. G. Mileham; 2nd, the same variety; 3rd, Edwin Molyneux; and 4th, Miss Mildred Ware.

CUT BLOOMS SHOWN ON BOARDS.

JAPANESE.

Forty-eight Blooms, distinct.—There were three exhibitors in this exacting class, and the 1st honours were won by Mr. W. Mease, gr. to A. TATE, Esq., Downside, Leatherhead, who until a few years ago was well known as one of the very foremost exhibitors of Japanese Chrysanthemums. His collection on this occasion was good, and it contained blooms of most colours, several of the rich crimson flowers adding considerably to the effect. His varieties were as follows:—Back row: F. S. Vallis, the large new yellow variety, shown very finely in this instance; Mrs. J. C. Neville, Edwin Molyneux, J. R. Upton, George Lawrence, Capt. Percy Scott (rich yellow), Mafeking Hero, Guy Hamilton, Lady M. Conyers, Le Grand Dragon, Countess of Arran, Mrs. W. Mease, Gen. Hutton, Miss Mildred Ware, Australia, Lord Ludlow, very large, but not so highly developed from the standpoint of colour as we have seen it. Second row: Godfrey's Pride, very attractive; Miss Lucy Evans, Mme. G. Debris (an incurved Japanese that would almost have been as much in place in a class for incurveds), Mrs. F. S. Vallis (a very beautiful variety of deep red colour, relieved pleasantly by the bronze reverse), Lily Mountford, Dorothy Pywell, Mrs. G. Mileham, Viscount Beaumont, Bessie Godfrey, Mrs. J. Bryant, Mme. C. Nagelacker, Alfreton, quite of the type of Edwin Molyneux, brighter if anything; Mrs. F. Grimwade, Mermaid, Lord Salisbury, and Mr. T. Carrington. Front row: Mme. P. Radaelli, Mrs. E. Thirkell, Mrs. Barkley, Mme. Carnot, Matthew Smith, Silver Queen, Duchess of Sutherland (good yellow bloom with broad incurving florets), Henry Stowe, Mrs. H. Weeks, Sir H. Kitchener, Godfrey's King, M. L. Remy, Mme. Herwege, Miss O. Miller, and Miss N. Pockett. The 2nd prize collection was little behind in quality to that from Mr. Mease, and it was shown by Mr. R. Kenyon, gr. to J. R. TWENTYMAN, Esq., Monkham, Woodford Green, Essex. There were no blooms of excessive size, but many of them were more than ordinarily well coloured and possessed considerable refinement. Remarkable colour was afforded by the flowers of Henry Perkins, Exmouth Rival, Henry Weeks, George Penford, and W. R. Church. Henry Perkins eclipsing all the others for good effect. Other attractive flowers included the Duchess of Sutherland with its magnificently broad florets of chrome yellow colour, Godfrey's King, Kimberley, Rev. Wilks, Secrétaire Fierens, &c.; 3rd, Mr. A. Jefferies, gr. to JOHN BALFOUR, Esq., Moor Hall, Harlow, Essex.

Twenty four blooms distinct.—The 1st prize of 5 guineas in this class was presented by the President, Mr. Chas. E. Shea. The best collection was shown by Mr. A. Jefferies, gr. to JOHN BALFOUR, Esq., Moor Hall, Harlow, Essex, and amongst some excellent blooms those following were most noteworthy: Mme. Carnot, Mrs. Barkley, J. R. Upton, Lord Ludlow, Bessie Godfrey, Godfrey's Pride, Calva's Sun (an extraordinarily wide bloom of a rich yellow colour), Edwin Molyneux, M. Chenon de Leche, Sensation, Elsie Fulton (white), and W. R. Church. 2nd, Mr. Jas. Prece, gr. to Miss WILLMOTT, Warley Place, Brentwood. This exhibit contained an enormous bloom of Marquis V. Venosta, and other fine specimens. 3rd, Mr. Jas. Lock, gr. to Hon. Mr. Justice SWINFEN-EADY, Oatlands Lodge, Weybridge. 4th, Mr. W. MEASE. There were many competitors in this class.

Twelve blooms, distinct.—There were nine exhibits in this class, and the 1st prize was won by Mr. George Hewitt, gr. to CHARLES E. GREEN, Esq., Theydon Grove, Epping. His varieties were Rev. W. Wilks (an enormous flower, with extremely wide florets, colour light rich purple with silver reverse), Matthew Smith, Mrs. G. Mileham, Kimberley. Centre row: Florence Molyneux, Marquis V. Venosta, Lord Ludlow and Mrs. J. Bryant. Front row: Sensation, Bessie Godfrey, Mrs. H. Weeks and Mary Inglis. 2nd, Mr. George Halsey, gr. to JEREMIAH LYON, Esq., Riddings Court, Caterham Valley; 3rd, Mr. H. Smith, gr. to Colonel BOWLES, M.P., Forty Hall, Enfield.

INCURVEDS.

The blooms in the classes for Incurveds were of good average merit.

Thirty six incurved blooms distinct.—The largest class is one for thirty-six blooms. The 1st prize was won by that invincible grower Mr. W. HIGGS, gr. to J. B. HANKEY, Esq., Fetcham Park, near Leatherhead, and his collection contained many large well built and finished blooms. His varieties were as follows: Back row:—C. Bick, Pantia Ralli, Countess of Warwick, Mrs. F. Judson (an excellent white flower of unusually

large proportion), Nellie Southam, C. H. Curtis Mrs. Barnard Hankey (new), Lady Isabel (a pleasing flower of delicate tint and very broad florets), Frank Hammond, Ialene, Hanwell Glory, and Duchess of Fife: *Centre row*.—Miss A. Dighton (a very pretty yellow bloom), Ralph Halton, J. Agate, Mildred Lyne, Madame Ferlat, G. W. Matthew, Mrs. H. J. Jones, Egyptian, Miss A. Hills, Major Bonnaffon, Ma Perfection, and George Lock. *Front row*: Mrs. R. C. Kingston, Louise Giles (a very distinct-looking yellow flower), C. B. Whitnall, Mlle. Lucie Faure, W. Higgs, Topaze Orientale, Geo. Haigh, Comtesse d'Estolles, Miss E. Seward, Mrs. C. Crooks, Robt. Petfield, and Mrs. Tanner, one of the richest yellow-coloured incurveds; 2nd, Mr. MEASE, whose flowers were not nearly so good; 3rd, Mr. G. HUNT; and 4th, Mr. W. L. Bastin, gr. to Sir ALEXANDER HENDERSON, Bart., Puskot Park, Faringdon.

Twelve Blooms, distinct.—The 1st prize was won by Mr. W. L. BASTIN, and he had good blooms of the following varieties:—Mrs. H. J. Jones, Hanwell Glory, J. Lyne, Duchess of Fife, C. H. Curtis, J. Agate, Ialene, Countess of Warwick, Edith Hughes, Lady Isabel, W. Nevill, and Nellie Southam; 2nd, Mr. C. Lane, gr. to E. H. COLES, Esq., Brentford; and 3rd, Mr. R. J. JOLIFFE, Fern Bank, Bonchurch, Isle of Wight.

Six Blooms of one Variety.—Mr. C. Lane, gr. to E. H. COLES, Esq., won 1st prize for half-a-dozen good blooms of the variety C. H. Curtis. We could not ascertain who took the 2nd prize, but the 3rd prize was awarded to the variety Lady Isabel (white), and the 4th prize to that of Mlle. E. Roger, a greenish variety, introduced some years ago.

OTHER TYPES IN VASES.

Twelve large flowered reflexed blooms.—Mr. Chas. Brown, gr. to R. HENTY, Esq., Langley House, Abbot's Langley, Herts, was 1st for these old-fashioned but neat-looking reflexed blooms, showing the following varieties:—Dr. Sharpe, Clara Jeal, Peach Christine, White Christine, Cullingfordi, Miss Alice Robertson, Pink Christine, Cloth of Gold, Mr. B. Hoake (?); 2nd, Mr. J. Barrance, gr. to G. W. TAYLOR, Esq., Hadley Bourne, Barnet. These exhibits were very pretty and brightly coloured "posies."

Twenty-four large Anemone blooms, Japanese excluded.—Mr. Chas. Brown, gr. to R. HENTY, Esq., Langley House, Abbot's Langley, Herts, was 1st in this class; Mr. J. BARRANCE, 2nd; and Mr. A. E. Horton, gr. to H. H. PLATTEN, Esq., Harwood Hall, Upminster, Essex, 3rd.

Twelve large flowered Anemone blooms, Japanese excluded.—There were three varieties shown in each of four vases, and the prizes were awarded to Mr. J. Barrance, gr. to G. W. TAYLOR, Esq., and Mr. CHAS. BROWN, in the order named.

Twelve large flowered Japanese Anemone blooms.—The 1st prize was won by Mr. A. E. Horton, gr. to H. H. PLATTEN, Esq., Harwood Hall, Upminster, Essex, and the 2nd prize by Mr. CHAS. BROWN.

Nine Pompons distinct.—These were shown in vases, six bunches of a variety in each vase. The exhibits were very attractive; Mr. CHAS. BROWN was awarded the 1st prize, and he staged the following varieties: William Westlake (yellow), Prince of Orange Pygmalion, Black Douglas, Mlle. Elsie Dordon (still the prettiest of all Pompon Chrysanthemums), Osiris, Harry Hicks, Comte de Morney, and Mme. Martha; 2nd, Mr. T. Caryer, gr. to A. G. MEISSEMER, Esq., Aldenholme, Weybridge; 3rd, Mr. Geo. A. King, gr. to K. JONES, Esq., Knightsbridge, East Finchley.

Six Anemone Pompons, distinct.—Mr. CHAS. BROWN staged the following varieties—Magenta King, Emily Plowbottom, Antoniana, Mme. Montet, Mr. Astie, and Miss Nightingale, and was awarded 1st prize.

Six varieties of single flowered, six blooms of each.—These made a glorious show. The 1st prize collection came from Mr. A. Dear, gr. to W. JORDAN, Esq., Hill House, Palmer's Green, he had Admiral Sir T. Symonds, yellow; Elsie Neville, deep red; Annie Farrant, rich crimson; Edith, lilac pink with white ring round disc; Earlswood Beauty, white; and Crown Jewel, terracotta or bronze. 2nd, Mr. H. Redden, gr. to G. W. BIRD, Esq., Manor House, West Wickham, whose varieties were rather different and the flowers less regular; 3rd, Mr. W. C. PAGRAM, who had a very effective red-coloured variety in Elsie Neville.

FLORAL DECORATIONS.

There were four classes in this section, but the exhibits had not much novelty. In the class for three épergnes of Chrysanthemum blooms with appropriate foliage the 1st prize was won by Miss C. B. COLE, The Vineyards, Feltham, who used yellow Pompons and

very few yellow decorative blooms, with Asparagus sprays and Codium leaves, &c.; 2nd, Mr. D. B. CRANE.

The best exhibit of two vases of Pompon or Anemone Pompons was from Mr. A. Robertson, gr. to F. J. YARROW, Esq., Mitford House, 18, Abbey Road, St. John's Wood; and Mr. W. C. PAGRAM, gr. to J. COURTNEY, Esq., The Whim, Weybridge, 2nd.

In a class for one vase of six blooms of any Japanese Chrysanthemum arranged with any foliage for decorative effect, Mr. W. Barrell, gr. to Mrs. R. THORNTON, The Hoo, Sydenham Hill, showed good blooms of the variety Mrs. Barkley relieved with Nephrolepis fronds; 2nd, Mr. G. A. KING with Le Grand Dragon.

For the best hand basket of Chrysanthemums for table arranged with foliage, Miss ANSTEY, 4, Knight's Hill Road, West Norwood, was 1st; and Miss C. B. COLE, 2nd.

FRUIT.

Some good Grapes were exhibited in the three classes provided for them. Mr. W. Taylor, gr. to C. BAYER, Esq., Tewkesbury Lodge, Forest Hill, was 1st for three bunches of Muscat of Alexandria, showing large and highly coloured clusters; 2nd, Mr. W. LINTOTT, gr. to WALPOLE GREENWELL, Esq., Marden Park, Caterham Valley.

The exhibitor first named was also 1st for three bunches of Gros Colmar, with very large, well-coloured bunches.

For any other black Grape Mr. LINTOTT was 1st, with large clusters of Alicante.

Three exhibitors staged six dishes of dessert Apples, the 1st prize going to Mr. W. Stowers, gr. to G. H. DEAN, Esq., Whitehall, Sittingbourne. He had very fine fruits of Cox's Orange, King of the Pippins, Ribston, Blenheim Orange, Gascoigne's Scarlet and Allington Pippin; 2nd, Mr. CRANE, Cheveney, Maidstone.

Mr. STOWERS was also 1st for six cooking varieties, with large handsome fruits of Peasgood's Nonsuch, Bismarck and Bramley's Seedling, &c. Mr. CRANE was again 2nd.

No exhibit of Pears was forthcoming.

VEGETABLES.

For the special prizes offered by Messrs. Webb & Sons for nine distinct kinds, Mr. A. Basile, gr. to Rev. T. McMURDIE, Woburn Park, Weybridge, was a good 1st, his Onions, Leeks, and Celery were his best dishes. 2nd, Mr. Bastin, gr. to Sir ALEXANDER HENDERSON, M.P., Buscot Park, Faringdon, Berks.

Mr. Robt. Sydenham, Tenby Street, Birmingham, offered a series of prizes for single dishes and a collection. For the latter, that of eight dishes, Mr. R. Mairs, gr. to Sir JOHN SHELLEY, Bt., Crediton, Devon, was 1st; Mr. Brown, gr. to R. HENTY, Esq., Langley House, Abbot's Langley, 2nd. Four competitors staged, the produce being excellent throughout.

In the single dish classes, Mr. H. Folkes, gr. to the Rt. Hon. F. HALSEY, M.P., Gaddesden Place, Hemel Hempstead, was 1st for Cauliflowers, and Mr. MAIRS for Savoy; Mr. BASILE for Brussels Sprouts, Mr. FOLKES for Celery, Mr. BASILE for Carrots, Parsnips, and Beets. Mr. MAIRS had very fine Leeks, and was easily 1st, as also for Onions of Aile Craig variety.

For two varieties of Potatoes, Mr. R. A. HORSPOOL, The Gardens, Llangollen Road, Ruabon, was 1st, and Mr. FOLKES had 1st prize for handsome white stone Turnips.

Amateur Section.

In this section the term "Amateur" embraces two classes; first, those who mainly if not entirely personally cultivate their Chrysanthemums, and employ but one assistant regularly and who do not grow for sale, also including "single-handed" gardeners; 2nd, those who employ no paid assistance whatever, and are the *bona-fide* growers of their plants and blooms. In Class 32, that for eighteen Japanese blooms distinct, there were but two exhibitors, the 1st prize being easily won by Mr. C. Bellis, gr. to Mrs. G. M. FAULKNER, Fonthill Lodge, Forest Hill. Among the best blooms were Mr. F. S. Vallis, Duchess of Sutherland, General Hutton, and Miss A. Byron. 2nd, Mr. A. W. Seabrook, gr. to W. WILES, Esq., Ellerslie, Buckhurst Hill, Essex.

Five competitors staged (Section A) collections of twelve Japanese blooms, the 1st prize being won by Mr. A. Osmond, gr. to A. KEMPF, Esq., 15, Ross Road, South Norwood; 2nd, Mr. L. Gooch, gr. to J. WICKHAM JONES, Esq., Troceter Lodge, South Norwood.

For a similar number of incurved blooms Mr. SEABROOK gained the leading position; Duchess of Fife, Hanwell Glory, and C. H. Curtis were good blooms. 2nd, Mr. H. W. Culham, gr. to D. BIRT, Esq., Shooter's Hill Road, Blackheath.

For twelve incurved blooms in six varieties (Section B) Mr. A. R. KNIGHT 63, Hardinge Road, Ashford, the only exhibitor, was awarded the 1st prize.

There were five exhibitors in the class for six Japanese blooms, distinct (Section A), the 1st prize going to Mr. H. Pestell, gr. to F. S. WIGRAM, Esq., Elstow, Bedford, who had very good flowers; 2nd, Mr. J. G. MILLS, Hazel Dell, Anerley.

The best collection of six blooms of one variety was from Mr. SEABROOK, who had blooms of Mrs. G. Mileham, and was easily 1st.

Four exhibitors staged in the following class, for six incurved distinct, Mr. SEABROOK again taking the leading position; 2nd, Mr. Robertson, gr. to F. NARROW, Esq., Mitford House, St. John's Wood.

Mr. SEABROOK was easily 1st for six incurved of one variety, staging very fine blooms of C. H. Curtis; Mr. OSMOND was 2nd. Bunches of Pompons were but poorly shown by one exhibitor.

In Section B, seven exhibitors staged collections of six Japanese blooms, the 1st prize going to Mr. H. C. HAWKINS, Nithsdale, Blackheath; and for the same number in three varieties, Mr. F. WELLS, 181, Albert Road, South Norwood, was easily 1st among eight competitors.

For competition among amateurs in Section B, PERCY WATERER, Esq., gave a special Silver Challenge Cup and a Silver-gilt Medal in addition to the 1st prize for the best display of cut blooms of decorative Chrysanthemums arranged on a table space of 6 feet x 3 feet and judged for finish of bloom, Chrysanthemum foliage only to be used. Four exhibitors staged on separate tables, the 1st prize going to Mr. D. B. CRANE, 4, Woodview Terrace, Archway Road, Highgate. His exhibit was set up in vases, each of one distinct variety, small incurved, Japanese, singles, Pompons (such as Snow-drop), Anemones and Anemone Pompons, the whole forming a light and pretty exhibit; Mr. P. L. JOHNSON, Northgate, Bishop's Stortford, was a good 2nd.

A Silver Challenge Cup was also offered by Mr. Waterer for a somewhat similar display made by lady exhibitors, but allowing any kind of foliage to be used. Three very nice exhibits were set up, the 1st prize going to Miss M. ANSTEY, 4, Knight's Hill Road, West Norwood. The colours used were yellow and bronze, with trails of Asparagus and Ampelopsis Veitchii, light vases and wire arches being used; 2nd, Mrs. D. B. CRANE, Woodview Terrace, Archway Road, Highgate.

FLORAL ARRANGEMENTS.

For two hand-bouquets composed entirely of Chrysanthemums, Mrs. F. L. BREWSTER, 12, St. Peter's Street, Canterbury, was 1st; 2nd, Mr. OLIVER.

The competition was poor in the class for one vase containing blooms of one variety. Mr. H. Pestell, gr. to F. S. WIGRAM, Esq., Bedford, was 1st.

For a basket of autumn foliage and berries, Mr. A. TAYLOR, Vernon Terrace, East Finchley, was 1st.

MAIDEN CLASSES.

These were for those who had never before won a prize at the National Chrysanthemum Society's Shows. Mr. F. STILES, Forty Hill, Enfield, was well 1st both for Japanese and incurved blooms.

NON-COMPETITIVE EXHIBITS.

A very imposing group was that shown by Mr. H. J. JONES, Ryecroft Nurseries, Lewisham. It comprised twenty or more large vases in tiers each containing from fifteen to twenty specimen Chrysanthemum blooms, with other vases of a less size intermixed, the whole being backed by Palms and Bamboos, and other smaller foliage plants and ornamental grasses, &c., gracefully intermixed. A double row of specimen blooms in low vases made a finish to the front, which was draped with Isolepis and other grasses. The variety Duchess of Sutherland, a deep yellow Japanese, was conspicuous; also Mrs. J. Dunn and the Hon. Mrs. Acland (Large Gold Medal).

Messrs. T. ROCHFORD & SON, Turnford Hall Nurseries, Broxbourne, contributed a bank of Azalea mollis, Liliums in several varieties, Spirea japonica and S. astilboides, and a large mass of Lily of the Valley, all from retarded roots (Gold Medal).

HOBBIES, Ltd., Dereham, filled some 100 or more feet of tabling with Chrysanthemums in variety, Roses, and double Pelargonium blooms (Gold Medal).

Messrs. H. CANNELL & SONS, Swanley, and Eynsford, staged a magnificent collection of fruits, comprising 250 varieties, the majority of the Apples being very highly coloured. A large collection of Onions was also shown with the fruit. Messrs. CANNELL & SONS had also exhibits of Chrysanthemum blooms, sprays of zonal Pelargonium blooms, and a group of Cannas in

pots. The Chrysanthemum blooms included several novelties, among them being W. W. Mann, a deeper coloured sport from the variety C. H. Curtis; also Daniel Lambert, &c. (Large Gold Medal).

Messrs. GEORGE BOYES & CO., Aylestone Nurseries, Leicester, exhibited a fine lot of winter-flowering Carnations in pots and as cut blooms (Silver-gilt Medal).

Messrs. W. CUTBUSH & SON, Highgate Nurseries, London, N., showed Lilies forced into bloom from retarded bulbs, also other plants of similar nature, and greenhouse flowering plants, Carnations, &c. (Gold Medal).

Mr. W. J. GODFREY, Exmouth Nurseries, Devonshire was awarded a Gold Medal for a display of Chrysanthemum blooms, &c., in which most of his own seedlings during the past few years were represented by first-class blooms.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nurseries, Chelsea, made a huge exhibit of their new hybrid winter-flowering Begonias, amongst which the variety Mrs. Heal was still the most effective (Gold Medal).

Messrs. J. FREED & SONS showed a group of Begonias Turnford Hall and Mrs. Leopold de Rothschild, also a collection of Apples (Silver-gilt Medal).

Mr. J. RUSSELL, Richmond Nurseries, Surrey, exhibited a small collection of Apples and Pears, and an attractive group of Ives, Hollies, and other shrubs (Silver-gilt Medal).

Messrs. GREGORY & EVANS, Sidcup, exhibited flowering Heaths, including Erica gracilis nivalis, with white flowers (Silver Medal).

Messrs. J. CHEAL & SONS, Lowfield Nurseries, near Crawley, showed a collection of Apples (Silver-gilt Medal).

Messrs. J. AMBROSE & SON, Cheshunt, were awarded a Silver Medal for Grapes, and for Roses in pots.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

NOVEMBER 6.—Notwithstanding bad weather there was a good display of plants on this occasion. Several very good groups were shown, the best coming from E. ROGERSON, Esq., Didsbury, whose group included many good things, a Silver-gilt Medal being awarded to it. In this group were Cattleya labiata var. alba, Cattleya Hardyana var. alba, Cypripedium × Edith, a hybrid between C. Rothschildiana × C. Boxallii var. atratum (Award of Merit), Cypripedium × Corona (Award of Merit), and Cypripedium × Titius.

T. STATTER, Esq., Stand Hall, Whitefield (gr., Mr. Johnson), exhibited a few nice plants, of which Cypripedium × Madame Jules Hye and C. × calloso-veitchii received Awards of Merit. A good form of Cattleya × Mantini var. superba was also shown.

Mrs. ARDEW, Hazel Mount, Stockport (gr., Mr. Morris), staged a nice group of plants. Cypripedium × niveo-callosum, Lælio Cattleya × luminosa, and Cattleya × Clarkie were voted Awards of Merit. Vote of Thanks for group.

Messrs. JAS. CYPHER & SONS, Cheltenham, received a Silver Medal for a nice bright group of plants, the best thing in the group being a fine form of Lælio-Cattleya × Statteriana var. superba (First-class Certificate).

WALTER LAYERTON, Esq., Victoria Park, Manchester (gr., Mr. Smith), made his debut as an exhibitor, and put up quite a nice group of Cypripediums, &c. C. × William Matthews var. superbum, supposed to be a hybrid between C. Lawrenceanum × C. Mastersianum, received an Award of Merit.

JAS. WILLIAMSON, Esq., Stretford, exhibited Lælio-Cattleya × Portia, and a hybrid Cypripedium, the parents of which were unknown.

Messrs. KEELING & SONS, Westgate Hill, Bradford, staged a group of interesting plants, and were awarded a Bronze Medal. Noticeable in the group were several good forms of Cattleya granulosa, one of which, called C. granulosa var. lutea, received an Award of Merit.

Mr. S. ALLEN, Sale, received an Award of Merit for a well-coloured form of Cattleya labiata called C. labiata var. splendens. P. W.

FRENCH NATIONAL CHRYSANTHEMUM.

NOVEMBER 6—11.—The eighth annual conference and show of the above society was held in the Palais Rameau at Lille on the above dates. There was a very fine display of pot plants and cut blooms, and the show was arranged in a very artistic style, there being no tables used as at English exhibitions. On the contrary, all the plants and cut blooms were staged in beds raised slightly above the ground level and edged with turf.

The schedule provided for thirty-six classes inclusive of ornamental foliage plants and other floral compositions, such as vases, baskets, table decorations, &c. A

deputation from the English National Chrysanthemum Society visited the show, consisting of Messrs. T. Bevan, Witty, Harman Payne, and Runchman, and was heartily welcomed. These gentlemen, assisted by several of the French members, judged the cut blooms. Most of the exhibitors were local growers, but among others Messrs. ERNEST CALVAT and NONIN exhibited new seedlings in great variety and in good form.

The well-known firm of Messrs. VILMORIN, ANDRIEUX ET CIE. made a grand display of plants in pots, showing three immense groups of beautifully-flowered plants of all the well-known varieties. These groups were arranged in a very artistic style, there being first a fringe of a pretty little yellow Pompon, Gerbe d'Or, then a wider band of a bright rosy decorative Japanese called Baronne de Vinols, and next the pots of plants containing the main part of the exhibit. Messrs. VILMORIN's exhibits were cosmopolitan in their origin, comprising varieties from every known source.

Of the many other groups it is almost impossible to speak, the exhibitors being so numerous. Among them however were some valuable contributions from Messrs. VAN DEN HEED, LELOUP, GRIMOUX, DAGNIAUX, who set up a most charming exhibit, which was awarded a Gold Medal. This consisted of a display of immense cut flowers arranged with Maidenhair Ferns, and at intervals large vases full of big blooms of various varieties of the Chrysanthemum.

A very similar group, carrying the same award, was staged by M. DENGREMENT, who had Mrs. White Popham, Miss Alice Byron, Lord Ludlow, F. S. Vallis, which is one of the very largest and best yellow novelties of the season; Charles Langley, Henry Barnes, Ralph Hutton, and Leocadie Genties, in as fine form as we ever remember to have seen them.

A Gold Medal was also awarded to M. MONTIGNY, who showed novelties of the past two seasons, these comprising French, English, and Italian varieties.

M. MULNARD staged a handsome group of Palms, foliage plants, and Chrysanthemums in pots, as also did Messrs. WILLOT & Co.

Vases of Chrysanthemums, baskets, various floral compositions were all represented in goodly numbers, suitable awards being made in each case. There were also interesting miscellaneous exhibits of Begonia Gloire de Lorraine, Lilies, Carnations, and the like.

In the afternoon the first meeting of the Conference was held. M. VIGER presided, and among those present were M. Abel Chatenay, Philippe Rivoire, Méry Montigny, Mulnard Galeslout, Bruant of Poitiers, Ernest Flerens, Ernest Calvat, Aug. Nonin, Chabanne, Choulet, Cochet, Lucien Chauré, Cordonnier, the English deputation, and many other well-known Chrysanthemum admirers.

Papers were read on matters relating to insect-pests and maladies that affect the Chrysanthemum, and discussion ensued. The text of these papers will appear in a subsequent issue of the Society's Journal.

In the evening of the opening day a banquet was held; M. VIGER presided, and all the members of the jury were invited. Complimentary speeches followed; several gentlemen who had assisted in organising the show were decorated with the Order of the Mérite Agricole, and the thanks of the meeting were presented to the foreign members of the jury. Mr. HARMAN PAYNE responded for the Belgian, Dutch, and English visitors.

BIRMINGHAM & MIDLAND COUNTIES CHRYSANTHEMUM, FRUIT, AND HORTICULTURAL.

NOVEMBER 10, 11, 12.—This Society held its forty-third annual display of Chrysanthemums, fruit, and vegetables in Bingley Hall, Birmingham, on the above dates. The exhibition as a whole was satisfactory, being considered to be quite equal to the best of its predecessors. Chrysanthemums, as pot plants and cut blooms, were shown extensively. The Japanese varieties were much superior to the Incurred.

We were informed that upwards of 700 entries were received from eighty-five exhibitors, and about 1,700 feet run of 4-foot tabling was necessary for the accommodation of fruit, cut flowers, and small decorative plants, in addition to a very large amount of space for groups on the ground. As may be imagined, hardy fruits were not largely represented; but some of the Apples were remarkable for their size and colour.

Vegetables stood out prominently, and rarely has the Birmingham public had a better object lesson in the high-class cultivation of vegetables than on this occasion.

We feel constrained to refer to the way in which the classes were broken up. In exhibitions of great magnitude and importance it would be well if the organisers endeavoured to simplify matters by keeping the classes in, or nearly in consecutive order, and separating them as little as possible. Stout class cards, with the number of the class printed in bold black type, would greatly assist visitors and exhibitors alike in finding any particular class of interest to them. Messrs. Hughes & Son (joint secretaries) deserve credit

for the way in which the general arrangements were carried out. Mr. Robert Sydenham was present, having returned from South Africa.

CHRYSANTHEMUMS.

Group of Plants arranged for effect.—The 1st prize in this class, a Silver Coronation Challenge Cup and £10, was won by G. H. KENRICK, Esq., Edgbaston (gr., Mr. J. V. Macdonald), with a tastefully arranged group in which Japanese varieties were arranged almost exclusively; 2nd, J. WHITFIELD, Esq., Moseley (gr., Mr. W. Thomson); 3rd, J. A. KENRICK, Esq., Edgbaston (gr., Mr. A. Cryer).

For a similar but smaller group, G. CADBURY, Esq., Northfield, Birmingham (gr., Mr. J. Maldrem), was placed 1st; A. H. GRIFFITHS, Esq., Edgbaston (gr., Mr. C. Kelland), 2nd.

SPECIMEN PLANTS.

Nine Large Flowering Varieties (Japanese excluded), dissimilar varieties.—1st, E. MARTINEAU, Esq., Edgbaston (gr., Mr. O. Brassier), with Alfred Salter, Madame Ferlat, Prince Alfred, Golden Madame Ferlat, Mr. Bunn, John Doughty, White Beverley, Lord Alcester, and C. H. Curtis; 2nd, G. CADBURY, Esq.

Six Large Flowering Varieties (Japanese excluded), dissimilar varieties.—1st, G. CADBURY, Esq.

Six Japanese, dissimilar varieties.—1st, E. MARTINEAU, Esq. (gr., Mr. O. Brassier); 2nd, J. A. KENRICK, Esq.

CUT BLOOMS (JAPANESE).

Eight distinct varieties (five blooms of each, the flower-stems to be not less than 18 inches long).—1st, Colonel BEECH, Coventry (gr., Mr. E. J. Brooks), with W. R. Church, Ethel Fitzroy, F. S. Vallis, Guy Hamilton, Mrs. G. Mileham, Miss Mildred Ware, Bessie Godfrey, and Mrs. Barkley; 2nd, the LEAMINGTON NURSERYMEN AND FLORISTS, Leamington.

Six distinct varieties.—Colonel BEECH was again 1st; 2nd, F. E. MUNTZ, Esq., Umberslade (gr., Mr. T. Pritchard).

Twelve blooms of Japanese Incurred.—1st, C. A. SMITH RYLAND, Esq., Barford (gr., Mr. R. Jones); 2nd, W. MANNING, Esq., Dudley.

INCURRED.

Eighteen blooms, distinct.—1st, Col. BEECH; 2nd, The Dowager Lady HINDLIFF (gr., Mr. C. Crooks).

Twelve varieties.—1st, the Dowager Lady HINDLIFF, Droitwich; 2nd, Sir A. HENDERSON, M.P., Faringdon (gr., Mr. W. L. Bastin).

Eighteen blooms.—1st, Earl of HARRINGTON, Elvaston Castle, Derby; 2nd, Sir A. HENDERSON, M.P. (gr., Mr. W. L. Bastin).

PLANTS AND FLOWERS (OPEN).

The best collection of twelve Chinese Primulas, single varieties, was shown by J. A. KENRICK, Esq.; 2nd, E. MARTINEAU, Esq.

J. A. KENRICK, Esq., was 1st also for twelve Cyclamens; and the Dowager Lady HINDLIFF, 2nd.

The best exhibit of a dinner-table, 8 feet by 4 feet, decorated with Chrysanthemums, Ferns, &c., brought nine competitors, and Mr. H. WOOLMAN, Acocks Green, Birmingham, secured the leading award; 2nd, The LEAMINGTON NURSERYMEN & FLORISTS, Leamington.

FRUIT.

Collection of British-grown fruit to occupy a space not exceeding 40 square feet. In this class was offered the Veitch Memorial Medal and £10, as 1st prize, which was won by the Earl of HARRINGTON, who had good Muscat of Alexandria, Barbarossa, and Gros Colmar Grapes; also Melons, Apples, Pears, &c.; 3rd (no 2nd awarded), Earl of CARNARVON, Bretley Park, Burton-on-Trent (gr., Mr. J. Read).

A class for two bunches of Muscat of Alexandria Grapes brought three competitors, and Mrs. F. NEED, Malvern (gr., Mr. J. Jones), gained 1st prize with Lady Hutt; 2nd, G. H. HADFIELD, Esq., Ross (gr., Mr. J. Rick), with White Nice.

Six bunches of Grapes in not fewer than three varieties.—1st, Earl of HARRINGTON, with shapely bunches of Muscat of Alexandria, Barbarossa, and Black Alicante; 3rd, Mrs. F. NEED.

The best culinary Apples were exhibited by the Dowager Lady HINDLIFF, and the best dessert Apples by G. H. HADFIELD, Esq. (gr., Mr. J. Rick), who had also the only exhibit of four dishes of Pears.

VEGETABLES.

Collection of nine distinct kinds, prizes offered by Messrs. Sutton & Sons, Reading. Five competitors, 1st prize, Col. O. R. MIDDLETON, Ross (gr., Mr. Leith); 2nd, Mrs. DENNISON, Little Gaddesdon (gr., Mr. A. G. Gentle).

Collection of eight distinct kinds, prizes offered by Messrs. Webb & Sons, Stourbridge, seven competitors, 1st, Lord ALDENHAM, Elstree (gr., Mr. E. Beckett); 2nd, P. SOUTHBY, Esq., Baupion (gr., Mr. G. Neale).

Nine distinct kinds, prizes offered by Messrs. R. Smith & Co., Worcester, two competitors. 1st, Lord ALDENHAM; 2nd, Mr. R. A. HORNSPOOL, Wotton

Six distinct kinds, prizes offered by Messrs. Thomson & Co., Spark Hill, eight competitors, 1st, Lord ALDENHAM; 2nd, M. FIRTH, Esq., Leicester (gr., Mr. T. J. Clarkson).

Nine distinct kinds, prizes offered by Messrs. Hewitt & Co., Solihull, seven competitors, 1st, Lord ALDENHAM; 2nd, W. E. ALSTON, Esq., Elmdon Hall (gr., Mr. C. Haynes).

The £15 Silver Challenge Cup and a money prize offered by Mr. Robt. Sydenham to the exhibitor who secured the greatest number of points in certain classes was won by Mr. R. A. HORSPOOL, Old Chirk Gardens, Ruabon; 2nd, Hon. T. F. HALSEY, Hemel Hempstead; 3rd, Earl of CARNARVON (gr., Mr. J. Read).

NON-COMPETITIVE GROUPS.

A Gold Medal was worthily awarded to the Right Hon. JOSEPH CHAMBERLAIN, M.P., Highbury, Moor Green, Birmingham (gr., Mr. J. Deacon), for an extensive and beautifully-arranged group of indoor flowering and foliage plants. Particularly good were the Begonias, Acalypha hispida, Bouvardias, Carnations, zonal Pelargoniums and Lilies of the Valley.

Messrs. R. SMITH & Co., Worcester, sent a group of hardy shrubs composed of the less common species suitable for pleasure grounds, also Apples, Pears, and Potatoes (Gold Medal).

Another Gold Medal collection of hardy shrubs came from Messrs. JOHN WATERER & SONS, Bagshot, Surrey. It consisted of cleanly grown Juniperus, Japanese Osmanthus, Scladopiys verticillata (Umbrella Pine), Cedrus atlantica glauca, Thuopsis dolabrata (originally cultivated as a stove shrub), Retinosporas, and red and yellow berried forms of Hollies borne in great profusion.

Messrs. THOMSON & SONS, Spark Hill, Birmingham, filled a space of 100 square feet with a miscellaneous collection of Begonia Gloire de Lorraine, Salvia splendens grandiflora, Bouvardias, Chinese Primulas, single Chrysanthemums, and profusely flowered Ericas.

Messrs. W. CLIBBON & SON, Altrincham, sent a very fine strain of Celosia pyramidalis with red and yellow coloured plumes, some of which measured about a foot in length. Messrs. CLIBBON also had a selection of the various forms of Chrysanthemums (Silver Medal).

Messrs. CHILD & HERBERT showed hardy shrubs (Silver Medal).

A Silver Medal was awarded to Mr. J. H. WHITE, Worcester, for a group of hardy shrubs and Primula obconica and other flowering plants.

A collection of Cacti and succulent plants came from Mr. J. G. THOMPSON, Handsworth (Silver Medal).

Mr. W. J. GODFREY, Rolle Street, Exmouth, sent a small group of cut Chrysanthemums, zonal Pelargoniums and Carnations (Silver Medal).

An extensive group of outdoor Chrysanthemums came from THE VINERIES, Ltd., Acock's Green, Birmingham (Gold Medal).

Messrs. HEWITT & Co., Solihull, contributed a group of Conifers and Carnations (Silver Medal).

Messrs. WELLS & Co., Earlswood, Redhill, put up a stand of Chrysanthemums (Bronze Medal).

Mr. J. AUSTIN, Sparkhill, a working factory hand, sent a very creditable group of Chrysanthemums in pots (Silver Medal).

Messrs. E. WEBB & SONS, Wordsley, Stourbridge, received a Gold Medal for an extensive collection of Potatoes, Begonia gloire de Lorraine and its white variety.

Messrs. PEWTERESS BROS., Tillington, Hereford, received a Silver Medal for sixty dishes of fruit.

Messrs. YATES & SONS, Old Square, Birmingham, showed vegetables (Gold Medal).

THE KING'S ACRE NURSERIES, Hereford, and Mr. J. BASHAM, Bassaleg, Newport, were represented by collections of Apples and Pears, the latter exhibitor being awarded a Gold Medal.

From the WORCESTERSHIRE COUNTY EXPERIMENTAL GARDEN, Droitwich (supt. Mr. J. Udale), came a collection of hardy fruits and vegetables, bottled and dried fruits (Gold Medal).

Mr. DEVERILL, Banbury, had an exhibit of zonal Pelargoniums and large Onions.

Gold Medals were also awarded to Messrs. PERKINS & SONS, Coventry, and Messrs. GUNN & SONS, Olton, Birmingham, for floral decorations.

Obituary.

WILLIAM OSBORNE.—I greatly regret to have to report the death of my friend Mr. Osborne. Two years ago he felt compelled, through ill-health, to relinquish his charge of the famous gardens at Fota Island, Cork, the seat of A. H. Smith-Barry, Esq. (now Lord Barrymore), which he had held for forty years. During this time he made great and important alterations and improvements in the gardens there. Amongst other works an extensive tract of land was reclaimed from the sea and planted with collections of Eucalyptus, Bamboos, &c. Mr. Osborne was

also sent to Algiers by his employer to lay out a garden and estate there. It was under his charge at Fota that the most beautiful Magnolia Campbelli first flowered in our islands. Mr. Osborne had a remarkable knowledge of hardy trees and shrubs, especially of Bamboos, Eucalypti and Aquatics, and, like all great gardeners, was ever ready and willing to open his storehouse of knowledge to the enquirer.

Upon his retirement, Mr. Osborne settled down for an all too brief a period of rest near Wadebridge, in North Cornwall, the home of his wife. Here he took a pleasant house surrounded by a nice garden, in which he had just planted a representative collection of Apples and Pears, Roses, and many herbaceous plants. Lately he had suffered greatly, and on Friday, October 30, he died, leaving a widow to mourn his loss. A. C. B.

E. SUMMERS.—On the 31st ult., at Stoke Gifford, in his eighty-fourth year, through being knocked down by a cyclist, Mr. E. Summers, who for upwards of forty-six years was foreman of the Stoke Gifford Nurseries of the late Messrs. Wm. Maule & Sons, Bristol.

ENQUIRY.

WHERE can I get seeds of Glycyrrhiza echinata? M. B., Middelburg.

ANSWERS TO CORRESPONDENTS.

BLACK AND RED CURRANTS AND GOOSEBERRY BUSHES: Rose. If the bushes are young, and they are removed with the utmost care, a light crop might be taken next year, but aged bushes would not get over removal in any case in less than two years.

BOX EDGING: Rose. This may be laid in mild weather throughout the winter, but the better season is March to April. If the plants are young and need but little trimming of the roots or tops there should be no losses following winter planting.

CARNATIONS, STRIKING OF PIPINGS: W. N. Given established plants on the move, more especially of the Perpetual or Tree varieties, pipings may be struck in sandy loam surfaced with sand, in pots, pans, or beds over bottom-heat of 75° or 80°, and kept close till rooted. A more suitable season is the month of January, the mother plants being slightly forced for a fortnight before the pipings are taken.

CATTLEYA GROWTHS EATEN: A. L. D. The specimens sent are injured by what is known as Cattleya-fly (Isosoma orchidearum), and which has been illustrated several times in the *Gardeners' Chronicle*. Ruthlessly cut off every portion affected, and burn the pieces. Remove every part affected as soon as discovered; watch for and destroy the fly. Fumigation, carefully done when the flies are known to be present, also assists.

FERN FRONDS DAMAGED: C. M. Excessive moisture in too low a temperature would cause damage such as is shown on the specimens sent. Injudicious fumigation might cause similar damage. Some forms of Pteris are specially addicted to turning brown in that way, and in prolonged dull weather it is next to impossible to prevent them doing so, even when properly cultivated. Being in London, fogs might have contributed to the trouble.

FIGS: E. S. G. The result of the declining temperature. See note on the cultivation of Figs on p. 318.

FUNGUS: C. S. The fungus is called an Earth Star, and is Geaster Michelianus, a kind of puffball with a thick outer tunic, which splits into conical segments, and is rolled back to show the inner globose puffball. Not at all common. M. C. C.

NAMES OF FRUITS: J. R. Yes, Ribston Pippin.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—F. J. H. The bulb is most probably Amaryllis Belladonna. It has the silky tunics of an African species. When sending a leafless and flowerless bulb of that kind for naming, you should at least say what you know about it.—Constant Reader. Oncidium Forbesii. Vitis. 1, Cattleya O'Brieniana; 2, Oncidium dasytyle; 3, Epidendrum nocturnum; 4, Oncidium excavatum; 5, Oncidium flexuosum; 6, Masdevallia racemosa.—C. E. F., Bristol. Stanhopea oculata.—H. F., Zygopetalum intermedium.—Claremont. Miltonia spectabilis Moreliana.—Improver. 1, Codium (Croton) Johannis; 2, Polypodium aureum; 3, Adiantum tenerum, or one of the garden-raised forms of it; 4, Davallia solida; 5, Davallia hirta cristata (Microlepia); 6, Selaginella denticulata.—D. B. 1, Quercus cerres, variety laciniata; 2, An Abies, of which we should like to know the source; 3, Phillyrea media; 4, Euonymus europaeus.—H. C. Ruscus hypoglossum, Polypodium vulgare.—A. M. 1, not determinable; 2, a species of Bromus, like B. giganteus; but the specimens are inadequate.—A. B. C. 1, Arbutus Unedo (Strawberry-tree); 2, Ilex Aquifolium myrtifolium; 3, Fuchsia Riccartonii, quite hardy in many districts.—J. G. C. Sequoia gigantea, more often called Wellingtonia.—Volva. 1, Bulbophyllum hirtum; 2, B. auricomum; 3, Cirripetalum refractum; 4, Stelis ophioglossoides; 5, Restrepia trichoglossa.—R. A. The flat stem is Cocco-loba platyclada, the other probably Panax elegans.—E. W., Dolgelly. The form of Cattleya Loddigesii, usually called C. Harrisoniana. This particular variety often opens quite white and changes to pale lilac.—E. W. W. The Fern is known in gardens as Pteris hastata macrophylla. The Calceolarias seem to be—1, Crim-son King; 2, Camden Hero.—W. L. 1 and 4, Lastrea filix-mas; 2 and 6, Athyrium filix-femina, the difference in the colour of the stem gives no botanical separation; 3, Lastrea dilatata; 5, Osmunda regalis.—V. M. 1, Maxillaria picta; 2, M. punctata; 3, Masdevallia triangularis.

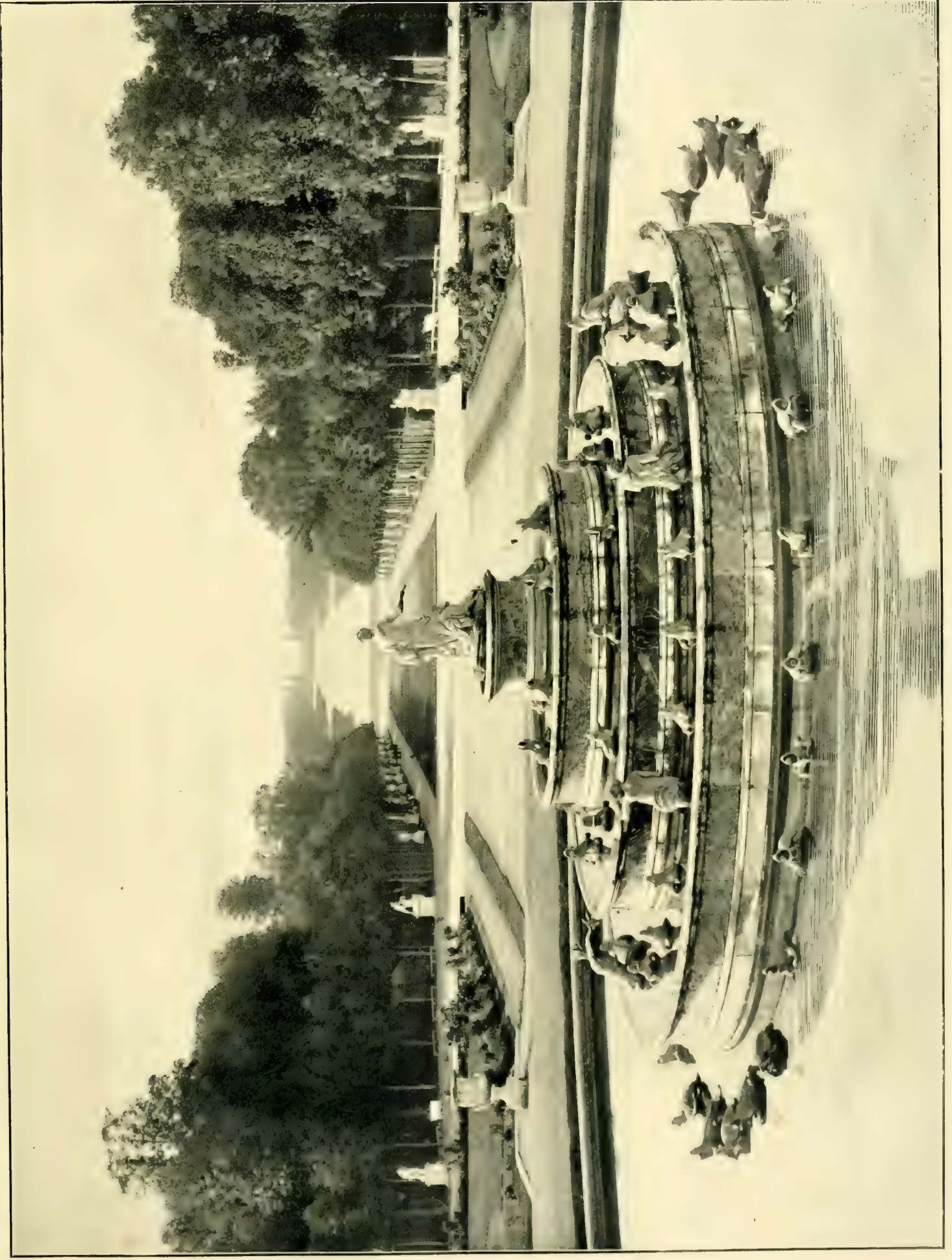
NARCISSUS FOR FORCING: A. F. The bulbs should have been potted at the end of August or early in September, and plunged in coal-ashes in a sunny place. Unless the pots are filled by the end of the present month with roots it will be useless to attempt to force the bulbs into flower by Christmas-tide.

PEA CARTER'S MICHAELMAS: R. B. Fine, dark-green, and sugary Peas; pods well filled. Nothing better could be desired.

STERILISING SOIL USED FOR GREENHOUSE PLANTS: J. D. We are not acquainted with any special methods employed in the United States of America. There are some creatures that are injurious to the roots of plants, which can be destroyed by baking the soil over iron plates, although this process dissipates some of the useful properties found in the soil and destroys others. Baked soil, before being used, should be put into sacks and buried for several months, so as to acquire the necessary moisture. It is usually sufficient in the case of a soil infested with weevil grubs, centipedes, wire-worms, slug-worms, ants, and leather-jackets, to expose it in a thin layer on a hard cinder or gravel-path, or tile or stone pavement, and pen some chicken on it by day for a week, stirring it occasionally. The application of boiling water (another method) usually destroys all such creatures. All pasture loams can be cleared of insect life by putting the former into compact heaps for an entire year, keeping these free from all vegetation during that time.

COMMUNICATIONS RECEIVED.—Chaloner Shenton (with thanks)—W. R. H.—S. T. W.—La Mortola—C. T. D.—L. C.—H. T. B.—W. B.—T. T.—F. E. Clifford—Mrs. Roper—P. H.—Paper—J. E.—Caladium (all next week)—T. Flannagan—A. D. R.—R. D.—H. F.—F. R.—T. W.—E. M.—A. H.—P. W. Voet.—F. J. G.—A. M.—W. P.—J. Pitts.—F. P.—J. F. M.—E. B. (photograph, with thanks)—H. F.—F. E.—G. F.—A. J. C.—J. McL.—J. B.—H. T.—J. H.—H. Grub.—Expert.—J. J. G.—A.—Experience.—T. C.—E. J.—C. P. R.—W. C. L.—R. P. B.—B. A.—H. W. W.

(For Markets and Weather, see p. 2.)



VERSAILLES: VIEW FROM THE TERRACE, SHOWING FOUNTAIN, "TAPIS VERT," AND CANAL.

THE

Gardeners' Chronicle

No. 882.—SATURDAY, November 21, 1903.

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THE RAINFALL AND THE LAND.

ALTHOUGH the excessive rainfall of the present year has done much service in replenishing springs which in many places had become exhausted, yet a heavy penalty has been paid for the assistance in that direction by the disastrous effects upon the land under either garden or farm cultivation. Work of all kinds has been delayed or in some cases, on the heavier soils, rendered quite impossible, with the result that there are heavy arrears to overtake, and at present the prospect of doing this is rather remote.

In this part of Bedfordshire the rainfall is usually low, as the average for the past thirty years, recorded by E. E. Dymond, Esq., of Aspley Guise, only amounts to 24.11 inches for the twelve months; and in four out of the past seven years the annual total was from 2.39 inches (1898) to 4.22 inches (1902) below the average, or a total deficiency for the four years of 13.45 inches. When, however, the shortage of such a period is

made up in about eight months it is not surprising that the effects in many directions become very serious.

Upon heavy soils the chief evil has been the interference with the ordinary routine of land preparation and with the cleansing which the persistent growth of weeds has rendered such a heavy task. Taking the months March to June, which cover a most critical period in gardens, the rainfall in this district has been 12.94 inches for 1903, whereas for the same months the average of thirty years' records is 6.76 inches, showing an excess of 6.18 inches. From March to July the total was 16.45 inches, or an excess of 7.18 inches; and although the first two months of the year were practically normal, the total from January to August equalled 23.53 inches, or 8.60 inches in excess of the average. September's record was slightly below the average, though it was a damp and sunless month; but October brought the total for the ten months of 1903 up to an exceptional figure—i.e., 31.83 inches, showing an excess of 12.10 inches. If the six months with the heaviest rainfall are taken, namely, March, May, June, July, August, and October, the total is 25.05 inches, or 12.57 inches above the average, indicating that double the usual amount had been registered.

With reduced evaporation due to the long sunless periods, the result has been that all land except where the soil is very porous, has been in a state of saturation during the greater part of the year. Weeds have been rampant everywhere, and many gardeners or farmers have found their ordinary labour quite incapable of dealing with land-cleaning in an adequate manner; while in some cases it has either been impossible to attempt such work, or a large part of the expenditure has been wasted.

There is another important respect in which the results of the large rainfall require consideration, and that is the loss of soluble substances which has been caused by the enormous drainage. The Rothamsted records of rainfall, drainage, and soil loss, supply many interesting facts, from which we can obtain some idea of the loss in the present year. It appears from 20 years' average at the experimental station in question that the loss per acre of nitrogen, calculated as nitrate of soda, has varied from 13.8 lb. in January to 3.4 lb. in April and May for each inch of rainfall in the respective months. From these data it can be estimated that in this district the total loss of nitrogen for the past ten months has been equivalent to 229.71 lb. of nitrate of soda per acre. It must, however, be remembered that the Rothamsted observations refer to bare soil of a rather heavy character, and it is probable the loss would be still greater in more porous land. On the other hand, where the ground has been occupied with crops (or even with weeds) the loss would be reduced. As regards weeds that are not in seed, or which have not perennial or creeping roots, no doubt digging them into the soil will be more beneficial than hoeing or removing them—in fact, it is the only practicable method available now in many districts.

The small amount of fertilising substances restored to the soil by rain can scarcely weigh against the impoverishing influence of such a long-continued washing out of

valuable salts. It is probable that the saturated condition of the soil, the diminished aëration, and the lower temperature caused by constant evaporation may have reduced nitrification below the average, and that in consequence a smaller proportion of substances would be present in a soluble form than is usual. It would require careful experiments and accurate observation to determine how far the various causes and conditions have checked or increased soil losses this year, but several facts have come under my notice which tend to 'prove' that the loss is a substantial one. In preparing land for another season cultivators will be wise to bear the matter in mind, or they may experience disappointments in crop results that might to some extent at least be avoided. *R. Lewis Castle, Ridgmont, Beds.*

NEW HYBRID AMARYLLIDS.

HYBRID CRINUM AMANTEUM.

In October, 1900, I impregnated *C. giganteum* with pollen of *C. amabile*. The fruit contained ten seeds, but only two grew. In April, and again twice in October, 1903, these bulbs flowered.

C. giganteum has an obscurely porroid (Onion-shaped) bulb, spreading foliage and campanulate white flowers, with wide segments and contiguous stamens.

C. amabile has a strictly cepoid (Leek-shaped) bulb, erect, leathery, dark-green foliage and star-shaped flowers, with narrow purple-red segments and spreading stamens.

The hybrid which I have raised between these very dissimilar parents is of great interest, although the flowers are not so beautiful as those of either. The foliage of the hybrid is noble and very distinct, resembling most closely the male, but it has obscure spots upon the lower parts of the leaves which neither parent nor any member of the genus possesses. The bulbs also most resemble the male, but in the offsets show much variability. The inflorescence takes after the female in all respects but two—the narrower segments, and the tinge of pink colour which suffuses the outer extremities.

The plants are vigorous. Herbert thought that *amabile* was a natural hybrid, because of its sterility—which I have verified—and because he detected some malformation in the pollen. At any rate, in this instance the pollen has proved virile.

DESCRIPTION.

Bulb.—7 inches high by 3½ basal diameter.

Leaves narrow, thirteen (eleven fully grown), deep green, glabrous, edges flexuose, 2 to 3 feet long by 3½ inches maximum width.

Scape tall, stiffly erect, deep bright-green, carrying an umbel of four to nine flowers high above the foliage.

Flowers.—Nearest to *Botanical Magazine* t. 6483 (podophyllum) but more erect, on shorter pedicels, and not at all campanulate. Regular, not widely expanded, faintly flushed pink exteriorly, especially in the bud stage; fragrant, nearly sessile, 2½ inches span.

Segments.—The three inner much wider than the outer, measuring from over ¼ of an inch to ½ inch in maximum width.

Tube almost straight, 2½ to 3 inches long.

Limb 2 to 2½ inches.

Stamens shorter than limb.

Style longer.

Anthers and *pollen* as in *giganteum*.

Ovules few. *A. Worsley, Isleworth.*

(To be continued.)

THE SPECIES OF RENANTHERA.

THERE are few Orchids in the tropics more easy of cultivation and more floriferous than the Renantheras, commonly known as Spider or Scorpion Orchids, and no tropical garden can be considered at all complete without them. There are eleven species known, all natives of the Malay and Chinese regions. The plants have woody, terete stems usually about as thick as a pencil, emitting long, grey, terete roots from the joints, and attaining a length of 20 or 30 feet, or even more. The leaves are leathery, oblong, distichous, rather far apart, and the flowers are produced in large panicles of several branches, usually spreading horizontally and covered with flowers, often of large size and brilliant colour.

The Renantheras are propagated by cuttings which grow readily when merely stuck in the ground. To grow them it is best to dig a round bed, in which is put leaf-mould mixed with broken crocks and charcoal, and fairly stout poles, 7 to 10 feet tall are put in the beds, up which the Renantheras will grow. The beds are made in full sun, and from time to time a little cut grass should be thrown on the base of the plants. Grown in this manner most of the Renantheras will thrive and flower several times a year.

The Vandas, *V. teres* and *V. Hookeriana*, and the hybrid *V. Miss Joaquim*, are best grown in the same way as Renantheras, and in good damp soil are very floriferous. Renantheras may also be grown on trees, but as they do not flower till they get to the light this is rather a slow method. Light being what these plants require, cultivation in Europe has not been very successful on the whole, though several species have flowered in hothouses. Renantheras are seldom attacked by any pests, but I have seen them injured by the small black Orchid weevil in Penang.

The following species have been cultivated in Singapore:—

R. arachnites, Lindley (*Arachnanthe moschifera*). The Scorpion Orchid, native of Perak.

R. Maingayi, Ridley. Native of the Malay Peninsula.

R. alba, Ridley. Native of the Peninsula and Borneo.

R. matutina, Lindley. Native of Borneo and Malay Peninsula.

R. micrantha, Lindley. Native of the Peninsula.

R. Storiei, Reichenbach f. Native of the Philippines.

R. coccinea, Loureiro. Native of Cochin China and China.

R. Imschootiana, Rolfe. Native of Assam.

The only others are *R. bilinguis*, Reichenbach, of Borneo; *R. sulingi*, of Java, and *R. trichoglottis*, Ridley, of Borneo.

The plant commonly called Renanthera Lowii does not really belong to this genus.

R. arachnites is the largest and strongest grower, and a very regular flowerer. The flower-sprays are large and the flowers 3 inches across, the largest in the genus; the sepals and petals are green with blotches of brown, the lip white.

From its curved lateral sepals and straight upper one, it has obtained the name of Scorpion Orchid, as it vaguely recalls the appearance of that creature. It has a strong scent of Musk emitted from the tip of the upper sepal, which is curved back. It flowers twice or oftener a year, January and July, and occasionally fruits.

R. Maingayi, Hooker fil., is nearly as big a plant, but the leaves are more flaccid. The panicles are usually large and loose, and the flowers distant, quite scentless, of a similar shape to those of the previous species, and nearly as large, the ground colour white or pinkish-white, with numerous blotches of shrimp-pink. In some forms the flowers are almost suffused entirely with dark

pink. It is a very beautiful species, but a much shyer flowerer. Very fine sprays, however, are often to be seen in Singapore gardens.

R. alba was first met with by myself climbing over bushes in hot, open sandy country in Pahang. It occurs in many places in the Peninsula, especially near the sea; I have seen it in immense abundance climbing over low trees in an island near Singapore, and emitting so many of its long roots that they formed a curtain that had to be cut through before one could get through the bushes. It is rather shorter in the stem than the preceding species, and somewhat brittle. The leaves are more fleshy and rigid, and often minutely toothed at the base, especially in plants



FIG. 143.—A PLANT OF RENANTHERA STORIEI WITH 210 FLOWERS OPEN, GROWING IN THE OPEN IN MR. ST. V. B. DOWN'S GARDEN, "BELVEDERE," SINGAPORE.

grown in full sun. The flowers are smaller than those of *R. Maingayi*, in a loose panicle, or a spike in small plants. They are white.

R. matutina is a plant of much lower habit, 1 or 2 feet high with speckled stems and narrow ligulate leaves, rather stiff. The sprays about 8 or 9 inches long, the flowers about twenty, scattered, rather narrow, red or orange spotted with darker colour, the lip white with a central red spot. It grows usually on rocks, and does not seem to be a very easy plant to cultivate. It appears to be rare in the Peninsula, but has been found by Wray in Perak, and by myself also on rocks in forest on Bujong Malacca. It seems to be commoner in Borneo.

R. micrantha is often to be found on rocks overhanging the sea, all over the Peninsula. The stems are tolerably stout, about 10 or 12 feet long, the leaves short and broad, usually blotched

with red; the flower-sprays are about a foot or more long, with horizontal branches densely covered with very small deep red flowers all arranged on one side. Though the flowers are the smallest of any in the genus, only $\frac{1}{4}$ inch long, their abundance makes this a very charming plant. It is easily grown and flowers often. The plant itself, however, appears to be comparatively short-lived.

R. coccinea is a stout plant, but appears here at least to be a much shorter and more compact plant than *R. moschifera* or *Maingayi*, however it runs to 12 feet or even more in length. It is one of the most beautiful in the genus. The panicles are large and much branched, and bear innumerable deep scarlet flowers mottled with darker colour, they are about 2 inches across, with the lower sepals broader, oblong, spatulate. It does well in the Straits, and very fine sprays may be often seen at our flower shows.

R. Storiei (fig. 143) is the finest species in the genus. It has much the habit of *R. coccinea*, a stout plant with rather broad, dark-green leaves. The panicle is often very large, one plant about 6 feet tall had an inflorescence of 700 flowers. It was flowered by Mr. St. V. B. Down, in Singapore, in June, 1903, and was certainly a magnificent sight. A plant in the Botanic Gardens, though only about 4 feet high, flowered at every one of the upper joints. But I have seen plants grow for a long time before they showed any signs of flowering, although grown in full sun. It is better certainly that the plant should not be allowed to flower till it is robust, as the flower-sprays are usually small, and it is a considerable strain on the plant. It is a native of the Philippines, and is said to be abundant there.

R. Imschootiana is a short plant with the habit rather of a Vanda, and flowers like those of *Storiei*, but smaller and fewer. It is rather too small to grow on posts like the other species, and pot culture seems to suit it best. Imported plants were flowered in the Botanic Gardens last year, but this climate is probably too wet for it, as it does not seem to thrive. *The Agricultural Bulletin of the Straits and Federated Malay States.*

NURSERY NOTES.

MESSRS. WILLIAM BULL & SON'S NURSERY.

At this well-known nursery in the King's Road, Chelsea, the fine winter-garden, which is one of the distinguishing features of the place, retains its usual character, the tall Palms, Cycads, Tree Ferns, and ornamental plants so familiar to the visitor having quite a tropical effect. In the nursery itself the usual varied stock is to be found, the Orchids taking prominence, and for them new quarters are being arranged. The first new house finished is intended for *Odontoglossums* and other cool-house Orchids, and at the time of our visit the new accommodation was being made use of, a part of the cool-house plants having been moved into it. Among those in bloom in the group arranged at the entrance were some excellent specimens of *Odontoglossum crispum* and other *Odontoglossums*, including the rare *O. blepharicanthum*, a cinnamon-brown spotted form of the *O. crocidipterum* class; a selection of Brazilian *Oncidiums*, *Lycaste Deppe* and *L. Skinneri*, *Cymbidium Tracyanum*, &c.

The house itself is admirably constructed and fitted with all the best proved appliances, the whole of the central staging having beneath it a very deep rain-water tank. A smaller and slightly warmer compartment at the end provides for the section requiring more heat, and for the hybrid *Odontoglossums*, now in the process of raising, when large enough. Raising hybrid Orchids has also entailed the providing of new quarters specially built for the purpose, and the accommodation made has proved very satisfactory,

although the time which has elapsed since the commencement of this new branch has not been sufficient to have proved many of the seedlings raised. The course pursued in sowing is to follow the old plan of sowing the seeds on the surface of the material around growing plants of a similar nature. This plan has been found to be very satisfactory, even the *Odontoglossums*, of which there are a goodly number of the recently germinated class and a few already with leaves, coming up well in that way. In the seedling-house were many good crosses, including hybrids of *Cypripedium callosum* Sanderæ, *C. Lawrenceanum* Hyeannum, *C. × Mandiæ*, and *C. bellatulum* album, as well as *Lælias* and *Cattleyas*, all still in the early stage of growth. In the same house is a collection of *Anætochili*, *Hæmarias*, *Good-yeras*, *Habenaria carnea*, and other colour-leaved Orchids, and all thriving.

The old cool Orchid houses have a good selection of showy species and varieties, with some *O. crispum* and other *Odontoglossums*, *Oncidium concolor*, *O. Forbesii*, *O. crispum*, *O. tigrinum*, *O. incurvum*, and various *Masdevallias* in flower, among which *M. Hincksiana* with two kinds of flowers appeared, the one being white with a slight pink tint, and the other yellow. Among some plants of *Zygopetalum* (*Promenæa*) *citrina* was one of a very peculiar habit, the bulbs being more distant, and the flower-scapes much longer than in ordinary forms.

The *Cattleya* house had a good show of bloom on *Cattleya labiata*, *C. aurea*, *C. Loddigesii*, *Zygopetalum maxillare*, *Lælia pumila*, &c. In this house, among other named varieties of the *Cattleya labiata* section, two plants of the white *C. Mendelii* Souvenir de William Bull were noted.

In one of the houses was a batch of the *Natal Stenoglottis longifolia* with many spikes of pretty rosy-lilac flowers; these had been in bloom for several weeks, and were still in good condition. It is a good decorative plant, and one which we have seen thriving under the most dissimilar treatment, sometimes in a warm, and in other gardens in a cool house. With it were arranged *Gomesa planifolia*, *Vanda Kimballiana*, *V. Amesiana*, and other pretty species.

In another house the specimens of *Lælia purpurata* were well furnished with flower-sheaths, and *Cattleya Dowiana aurea* and some *Dendrobium Phalaenopsis Schroderianum* were in bloom, and a small lot of *Phalaenopsis* in good condition.

The *Cypripedium* house had a number of good specimens of *C. × Arthurianum* and varieties of *C. × Harrisianum* in bloom; also *C. × Chas. Canham*, *C. × ænanthum superbum*, *C. purpuratum*, *C. Lawrenceanum*, *C. tonsum*, varieties of *C. × Leeannum*, and a singular form of *Cattleya Warscewiczii* named *denticulatum*, on account of its large, finely-coloured, frilled and fringed labellum. Also remarked in flower were a good number of *Miltonias*.

One of the low span-roofed houses contained a quantity of *Odontoglossum crispum* recently imported. The general collection of plants in the other houses show many fine old species and garden plants not now usually seen in cultivation, together with selections of the best of the more recently introduced.

DISEASES OF SEEDLING CONIFERS

Four years ago a considerable number of Larch seedlings were observed to be suffering from some disease. The epidemic was described as first appearing on one side of the plot, and from thence gradually extended until all the seedlings were either killed outright or more or less injured. Examination showed the disease to be caused by a parasitic fungus called *Melampsora laricis*.

The matter rested at this point until the present season, when information was received

from the same nursery to the effect that, realising the danger of an epidemic spreading rapidly over an unbroken area of Larch seedlings, the method of sowing alternately seeds of Larch and

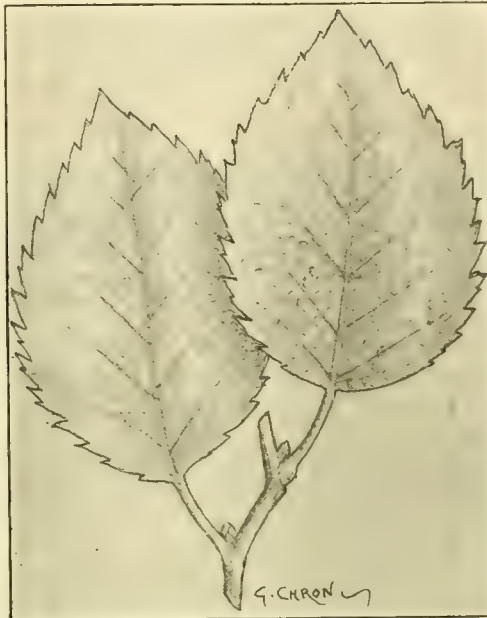


FIG. 144.—ORANGE RUST ON BIRCH LEAVES: ONE STAGE OF "LARCH LEAF RUST," *MELAMPSORA LARICIS*. (Natural size.)

Birch was adopted. Alas! the idea, good so far as it went, did not answer the desired end, and, sad to state, both Larches and Birches are now suffering from the same fungus disease, and the last end is much worse than the first. Further-



FIG. 145.—TOP OF YOUNG SPRUCE SEEDLING SHOWING APPEARANCE OF "PINE BRANCH TWIST," CAUSED BY *MELAMPSORA PINITOEQUA*. (Natural size.)

more, the owner, somewhat hastily, as will be shown later, denounced mixed planting as a delusion and a snare.

To understand the point that led up to the disasters enumerated above, it is important to know that *Melampsora laricis* grows at different

periods of its life on two different plants, namely on the Birch and on the Larch. Now, when the question came to be fully investigated, it turns out that the first wave of disease was due to the presence of a fringe of Birches bounding one side of the nursery—the side where the disease first showed itself on the Larches. From these Birches the disease passed on to the Larches. The proprietor, not knowing that the disease spent one portion of its life on the Birch, actually sowed alternating rows of Birch and Larch, the two host plants of the fungus, in the hope of checking the disease.

The fungus grows on Birch-leaves under the form of numerous small orange pustules, which eventually change to a brown colour (fig. 144). These remain on the fallen leaves throughout the winter, and in the following spring the spores germinate and infect the young leaves of the Larch. Soon after infection the Larch leaves turn yellow, then brown, and finally they fall. This early defoliation usually proves fatal to seedlings, and acts injuriously on older plants.

A fungus very similar in general appearance to the one on Birch leaves is exceedingly common on Poplar leaves, and is known as *Melampsora pinitorqua*. This fungus passes the second stage of its existence on seedling Spruces, causing the disease commonly known as "Pine branch twist," owing to the young shoots becoming variously contorted and curved and denuded of leaves (fig. 145).

Moral: Do not form a nursery of Conifers in a locality where Birches or Poplars abound. Geo. Massee.

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT MILL BANK HOUSE, WARRINGTON.

ABOUT the extensive collection of Orchids which Alderman William Bolton, the newly-elected Mayor of Warrington, has got together in such a short time there are several very remarkable features, the most evident of which are the house filled entirely with yellow varieties of *Cypripedium insigne*, and among which all the best forms are in quantity, that queen of all yellow *Cypripediums*, *C. insigne* Sanderæ, being represented by over 300 plants, many of which are in bloom. Another noteworthy circumstance is that in the large blocks of houses devoted entirely to *Odontoglossums* there are about 100,000 *Odontoglossum crispum* of recent importation. None of them having as yet flowered in this country, a fair show of the valuable spotted forms is expected, some having already appeared among those which Jensen collected for Mr. Bolton.

Throughout the whole collection the vigour and cleanness of all the plants, and especially of the *Odontoglossums* and *Cypripediums*, which form the bulk of the collection, are remarkable, and will compare favourably with the best in the country. This is all the more praiseworthy because the plant-houses are in a somewhat confined space, and in close proximity to the busy manufacturing town. The Manchester Ship Canal, on which the large ocean steamships from America and other countries are continually passing, runs within a few yards of the Orchid-houses, and may have a salutary effect on the plants.

The whole of the large expanse of glasshouses is kept at a uniform temperature, the heating apparatus being of an unusual character, the three boilers being very large ones of the kind generally used in factories, and in some cases some available 8-inch pipes have been utilised.

Leaf-soil in moderate proportions, with peat and sphagnum-moss, is used for almost all the plants, and with excellent results.

In the first house entered were quantities of *Miltonia vexillaria*, *M. Roezlii* and *M. Phalaenopsis*, about whose partiality for almost pure

decayed leaves there is no doubt. In grand order and flowering especially well were several specimens of *M. vexillaria Leopoldii* and a batch of white *M. Roezlii*. A batch of *Cypripedium Charlesworthii* in flower has some of the best forms, with dorsal sepals nearly 4 inches across; *C. bellatulum*, *niveum*, *concolor* and *Godefroyæ* and their hybrids are equally fine; and in flower, together with some good unnamed hybrids, were *C. × Creon superbum*, *C. × Chas. Richman*, *C. × Niobe magnificum*, *C. × conco-Lawre*, *C. × Annie Measures*, *C. × McNabianum*, *C. × Memoria Moensii*, *C. × Rothschildianum* and some hybrids of it.

In the next house, as before alluded to, were, among other yellow *Cypripediums*, over three hundred *C. insigne Sandersæ*. Farther on were a collection of fine forms of *C. insigne*, among those in flower being some good specimens of *C. insigne Harefield Hall* variety. Respecting this, Mr. Bolton has discovered an infallible means of recognition, the broad leaves showing slightly grooved lines which readily catch the eye when the leaves are glanced along. This peculiarity, he says, no other *insigne* has, and so far as we tested it we believe he is right. *C. i. Willerspool* variety is also fine; and with the *C. insigne* are a good set of *C. nitens*, *C. × Mons. de Curte*, and other hybrids in flower.

In another house was a fine batch of *Cypripedium Chamberlainianum*, which is almost perpetual flowering. The plants are so vigorous that some of the leaves measure 4 inches across—broader than in any imported plant of it yet introduced. Throughout the other *Cypripedium* houses there were in flower good batches of the best forms of *C. × Leeannum*, *C. × Arthurianum*, *C. × Prospero*, *C. × Lathamianum*, *C. × Haynald-Chamberlainianum* and many other hybrids, and nearing maturity were some promising crosses.

Then follow ten long houses of *Odontoglossum crispum*, all in magnificent condition, the progressive vigour shown by the older flowering specimens giving a good guarantee that the freshly imported ones have a good prospect. Other cool houses were passed through, in some of them being noted *Odontoglossums*, in others *Oncidium macranthum*, *Odontoglossum Edwardii*, *O. Forbesii*, *O. Marshallianum*, *O. varicosum*, &c., in flower.

Long ranges of houses have *Cattleyas*, *Lælias*, and hybrid *Cattleyas*, *Lælias* and *Lælio-Cattleyas* suspended close together near the glass of the roof, for in that way both Mr. Bolton and his Orchid-grower, Mr. Cain, consider they thrive best. *Cattleya labiata* is giving a good show of bloom, and there are some of the hybrids and others in flower also. There are large quantities of all the forms of *Cattleya labiata*, and especially of *C. Mendelii*, and even very small plants are furnished with flower-sheaths. In each section also the albinos are represented. One house is nearly filled with *Dendrobium atro-violaceum*, a quantity which few Orchid-growers would expect to find on one place. In another is a fine show of *Odontoglossum grande*. In another is a large quantity of *Cattleya aurea*, with a few *C. × Hardyana*, some being in bloom. A batch of *Vandas*, a quantity of *Cypripedium Spicerianum* in flower, a set of the hybrids of *Lælia Perrini*, a number of *Lælia Digbyana* crosses, and some interesting hybrids in the seedling department are also objects which appeal to the Orchid lover. Among the last-named are a few very wide crosses, one noted being *Thunia Marshalliana × Cattleya Mossiæ*.

Flowers of ordinary plants are sent to market, and surplus stock is sold; but Mr. Bolton carefully preserves his own select things, and never loses an opportunity of adding to his collection.

His other hobby, which we were privileged to inspect, consists of a very extensive and valuable collection of coins, medals, cameos, curios in gold

and silver, of great interest and value; and beyond these Mr. Bolton shows interest in diamonds and pictures.

MASDEVALLIA MACRURA MAXIMA.

In the complete collection of *Masdevallias* belonging to the Hon. Walter Rothschild, M.P., at Tring Park, a gigantic form of *Masdevallia macrura* is in flower, and which is probably the same as that which Mr. F. C. Lehmann once reported as having had brought in to him, but of which he never obtained plants.

From the tip of the upper tail to that of the lower is 11 inches, and the basal part of the perianth is one-third wider than in the ordinary form and the colour much darker. The perianth is strongly ribbed, white at the base, spotted with purple, and yellow on the free portions spotted with chocolate-purple. The tails are bright yellow, and the whole flower is a striking and showy object.

CATTELEYA × IRIS, TRING PARK VARIETY.

In the Right Hon. Lord Rothschild's garden at Tring Park (gr., Mr. E. Hill), a most beautifully-formed and highly-coloured variety of this showy hybrid between *Cattleya Dowiana aurea* and *C. bicolor* is in bloom, so far superior to the ordinary forms as to merit distinction. The sepals and petals are nearly as large as those of *C. aurea* and thicker in substance, of an indescribable tint of golden-yellow, slightly tinged with reddish-orange, the margins of the petals being chrome-yellow. The column is white, slightly tinged with purple, and contrasts well with the elongated isthmus of the lip beneath it, which is of a dark-ruby tint, its colour gradually getting more purple as it approaches the expanded, serrated front portion, which has a narrow white margin. It is a beautiful flower, and of such productions the hybridist should be proud. J. O'B.

PARIS.

ALLOTMENT GARDENS.

WORKMEN'S gardens have been quite a feature in France for the last fifteen years, and are also known in Belgium, Germany, and the United States. The establishment of this philanthropic institution was started by the "Ligue de Coin de Terre et du Foyer," under the presidency of the Abbé Lemire, under whose auspices a successful Conference dealing with the work has recently been held in Paris. This congress was opened, October 24, at the Hotel des Sociétés Savantes, the meetings being presided over by M. Aynard, Deputy.

According to the general report, read by M. Rivière, there are in France 6,167 gardens covering 291 hectares (about 720 acres), and affording employment to 43,169 persons. The Conference passed resolutions with the objects that:—1, The law should permit the syndicates of workmen's gardens to become the proprietors of their gardens, as this would greatly encourage their improvement; 2, That the *bureaux de bienfaisance* should devote some of their resources to the formation of gardens; 3, That lands belonging to the Minister of War in fortified towns, and on which no buildings may be erected, might be put at the disposal of charitable societies who would form gardens thereon. Further, the Congress advised that workmen should be encouraged to till their gardens on Sundays. "It is far better," said the Bishop of Châlons, "to see a workman pulling up weeds in his garden on Sunday than to see him getting drunk or beating his wife" [but we may hope these are not indispensable alternatives! Ed.]. G. T. Grignan.

THE STRAWBERRY GRAPE.

LAST year I was told that the reason why market gardeners and nurserymen did not take up the cultivation of this fine-flavoured Grape was that the people did not like it. This year I thought it would be worth while to test the value of that statement, and the following is the result. In August was held the cottagers' exhibition of fruit, flowers, and vegetables, &c., under the auspices of the West Tarring Horticultural Society.

I there exhibited a basket of the Strawberry Grape, of course not for competition. My object was to make this Grape known, and I asked the Secretary to present it with its contents, after the first day's show, to the President of that Society. This is what the latter wrote: "The Grapes were delicious, and we much enjoyed them." Later on, I gave a basket of these Grapes to a fruiterer, and asked him to try if he could sell them at 6d. per lb. Four pounds were sold, and the rest were sent to customers to see if they liked them. Next day I gave a similar lot to another fruiterer, and asked him to try to sell them at the same price. He sold the basketful—some 5 or 6 pounds—the same day, and, curiously enough, two of the purchasers returned to the shop the following day and asked the man if he had any more of those Grapes. What was more significant? The fruiterer told me, "If you have any more I should like to buy some," but I had no more, as I had been giving them away right and left.

So I think we might now safely dispense with that interesting legend which related that "even boys would not take them as a gift," and that somebody said that this Grape was like a "scented slug"! I gave this Grape to a number of persons. The majority liked it, and some said they liked it very much. One boy in particular said, "Remember that I like this Grape," which evidently was a hint to send him some more. One girl in a fruiterer's shop to whom I gave a bunch would not taste them, and said, "I don't like Grapes of any sort." I have never before met with a palate phenomenon of this extreme nature, though a few did not like this Grape. As to the statement that "people do not like it," all those to whom I have given it said that "they have never heard of it"; so that they have had no opportunity of either liking or disliking it up to the time that I made it known to them. Even a Professor of Botany told me that he had never heard of it.

The fact seems this: horticulturists have been so engrossed with the pursuit of large and fine-looking berries, irrespective of their flavour, and have been so stimulated by prospects of certificates, medals, and prizes, that all other varieties of this fruit, however excellent their other qualities, have been utterly forgotten.

There must be scores of good varieties all over the world which wealthy amateurs might take up and rescue from oblivion. Market gardeners will take up only those varieties which are known and will sell immediately. They work for profit, and therefore cannot occupy their space and time with things that may not have an immediate value, or spend their money on experiments. But wealthy amateurs with expert gardeners and all necessary appliances are differently situated. When market-gardeners and nurserymen say that "people do not like it," we must take this statement in a very limited sense, something like that of the girl who said "she does not like Grapes of any sort."

When a number of people say they like a thing it is reasonable to infer that there is good in it. There cannot be much doubt that some persons in objecting to any particular fruit often confound two very distinct features, viz., the flavour, and the look and size of it. They may also

occupy their mind with antiquated notions which may have nothing to do with the thing before them.

There are many national horticultural societies for the improvement of this and that—some of which, it must be owned, occupy their energies with some trivialities—why could not a "National Grape Society" be got up for exploring the wealth of Grape varieties that exist all over the world, and for testing their value, with the view of introducing the good and scarcely known ones into the British fruit trade? M. Etienne

PEACH AND NECTARINE TREES AT ORLEANS HOUSE.

THE illustration, fig. 146, shows a view in the extensive Peach and Nectarine-houses at Orleans House, Twickenham, the residence of W. Cunard, Esq. This notable residence has been much improved in late years, and additional beds and borders have recently been made on the charming lawns facing the Thames.

This was the residence of more than one member of the French Royal Family some years ago, hence

rines grown are Early Rivers, Cardinal, Lord Napier, Pineapple, Early Rivers being preferred to Cardinal on account of being a fine fruit, and only a week behind Cardinal.

Some very perfect trees were in evidence of Pineapple, and covered with beautiful fruit of very excellent flavour. Some large trees shifted as late as November, December, and January bore testimony to careful culture.

The Peach-trees, like the Nectarines, were in lovely robust health. Varieties observed consisted of Dymond, Violette Hâtive, Gros Mignonne,

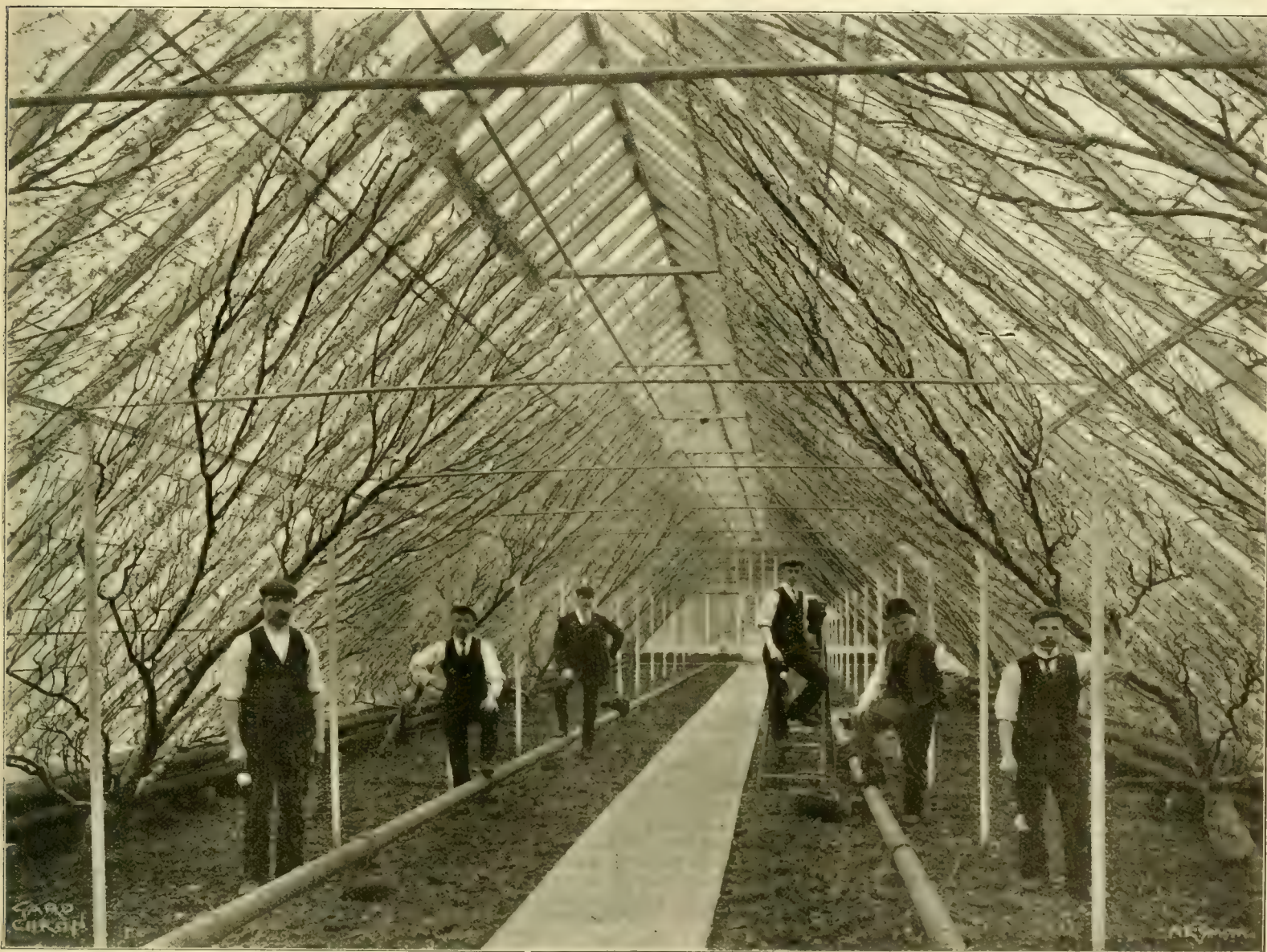


FIG. 146.—VIEW OF A PEACH HOUSE, ORLEANS HOUSE, WHEN THE TREES WERE IN BLOOM.

Salomon, the viticulturist of Thomery (Seine-et-Marne), has a large collection of all sorts of varieties, but he has not all those that are in existence.

In this connection, about a month ago, I bought in one of the larger stores in London some Gros Colmar Grapes, to see if I could like them better than on former occasions. They charged me three shillings a pound. When I got home I tried them, and found them sour! I suppose people buy them at that store. Fancy giving 3s. a lb. for sour Grapes! Even foxes would know better! E. Bonavia, M.D.

its name, and later still the famous All England Cricket Matches were played on its famous grounds, which adjoin the Marble Hill estate recently purchased for the public use.

Peaches and Nectarines are grown largely by Mr. Cunard, and Mr. Alsopp, his gardener, knows how to cultivate them successfully, for the trees are perfect examples of good culture. Some of the trees are as much as 300 to 400 feet square, and laden each year with fine fruits, and the picture of health. Some of the Peach-houses are 130 feet long by 20 feet wide, and a proportionate height. The varieties of Necta-

Barrington, Sea Eagle, Princess of Wales, which last finds much favour here. Very fine trees of Barrington and Nectarine Peaches were removed from one house to another in January last, and both were carrying fine crops of fruit. I may remark that no other plants are grown with the Peaches and Nectarines. W. A. Cook.

A HARDY AGAVE.—The *Gartenwelt* for October 31 gives an illustration of Agave Parryi, which has proved hardy in Southern Germany, where it has been unhurt by a temperature of 15° C.

CHRYSANTHEMUMS IN FRANCE.

HAVING just returned from the Paris and Lille Exhibitions of Chrysanthemums, where a large number of new seedlings have been shown and certificated, it may be useful to give some slight indication of them. Most of these novelties will in all probability be put on the market next year. Nearly eighty First-class Certificates were awarded at the Paris Show, the principal recipients being MM. Nonin, Calvat, Vilmorin, Andrieux et Cie., le Marquis de Pins, Chantrier, Héraud, de Reydellet, and others.

In form and size most of them are all that can be desired from the show-board standpoint; some, however, will not be appreciated by the English cultivator, and I will point out merely those that are likely to be.

Of CALVAT's novelties, Marguerite de Mons is a very large, deeply-built Japanese flower of good form; the colour is pale-blush. Madame Emile Rosette is another monster Japanese, having long flat florets, pointed at the tips; colour pale-lilac or heliotrope, with silvery reverse. Jos. Paquet, a Japanese, with very long twisted, flat florets; colour deep golden-yellow. Shakers, a Japanese flower, very large, full, and double; colour dull chestnut-red with golden reverse. Vercingétorix is a grand specimen of a Japanese flower; colour deep golden-yellow flushed rich reddish-chestnut. Souvenir de Victorine Calvat, another monster with rather broad florets, very full and double; colour a very pretty shade of delicate rosy-pink. Chrysanthémiste Rémy, Japanese, with long flat florets, pointed, and tips of a peculiar shade of rosy reddish-carmine; golden reverse and centre. Comtesse de Grailly, fine Japanese, with long drooping florets; white, tinted lilac-mauve. Marquise Visconti Venosta, an immense bloom, Japanese, with very long drooping florets, forming a big, solid-looking flower of great size and substance; pure white. Maurice Rivoire, a fine Japanese incurved, with broad grooved florets; pale rosy-chestnut, reverse old gold. Alliance, another monster yellow Japanese; the florets are long and deeply grooved; it will form an exhibition bloom of great service. Femina, a Japanese flower; colour lilac-mauve, tipped yellow; a big, solid, and compact bloom. Blondinette, Japanese, very large and solid florets, grooved; colour deep primrose-yellow.

M. ALFRED CHANTRIER is a raiser but little known in England, although his big white Japanese incurved Duchesse d'Orleans is just the type of bloom we require. The best of his varieties is Lac d'Estena, a Japanese of fine form, big in size and deep in build; colour pale yellow.

The veteran raiser, M. DE REYDELLET, also showed at Paris a nice little lot, but he does not present them in our exhibition form, and it is therefore rather difficult to gauge their merits.

Quite a new grower is M. LE MARQUIS DE PINS. In his lot there were Poupoule, a Japanese of immense size, rivalling anything in the Paris show; it has deeply-grooved florets of rosy-mauve colour. Madame de Castelboyné, Japanese, a very pretty shade of soft salmon-rose; Souvenir de Montbrun, a Japanese, very striking and effective, colour deep ochre-yellow tinted carmine; Madame Magne, Japanese, deep and solid, colour carmine-amaranth with golden reverse.

To M. BIGOT a certificate was awarded for the variety Madame Louis Bigot, a Japanese with very long twisted and curling florets; colour pale yellow.

The well-known firm of Messrs. VILMORIN, ANDRIEUX & Co. also presented a large number of striking novelties, but we were unfortunate in not being able to discover the special novelties

for next year in their very large contribution to the show.

M. AUG. NONIN, like Calvat, showed seedlings both at Paris and at Lille. Of these we were most impressed with M. Antonin Marmontel, a very full, deep, and double Japanese, with long, drooping florets; the colour a charming shade of rich purple-amaranth, paler towards the centre, and the petals tipped white; Professor Gilliet (Japanese), with medium-sized florets, colour crimson-red with gold reverse; Secrétaire Mulnard, a monster bloom of the Australie style, and not unlike it in colour; La Gracieuse, incurved Japanese with grooved florets, colour pale pearly-white tinted with flesh colour; Aug. Henri, a large Japanese with flat florets, pretty shade of bright, rosy, dark amaranth with silver reverse.

A few others may prove equally good: Amateur Marchand, a dark crimson; Perle des Roses, pretty pink; Fleur d'Automne, golden-bronze; Albert Maumené, purple, silvery-pink reverse; M. Jean Page; Lamartine, a yellow sport from Mme. Gab. Debré, &c.

THE ROSARY.

NOTES ON ROSE GRAFTING.

IN my paper published in your issue of the 7th inst. in regard to grafting Roses under glass, I believe I made myself quite clear as to the kind of stocks employed and their preparation before being brought into use. Wholesale growers usually make a start about the third week in November on established stocks. The scions used are taken from the dormant well-ripened wood and with one or two buds, and consist of the new and choicest English and French varieties. A close frame with movable lights should be provided inside the forcing-house, and the height at the back should not be less than 15 inches from off the front stage in the house, and in the lightest part of it, and immediately over the hot-water-pipes. The stage should be provided with a slate bottom covered with fine ashes, so that the heat can pass readily through into the frame. The temperature to start with should be from 55° to 60°, gradually increasing up to 65° as the maximum, unless with solar heat. It will be found necessary to open the sashes a few hours each morning to dry the air and dissipate the excessive moisture that gathers round the plants. It is usual to finish up with dormant grafting on or about the turn of the year, when the herbaceous or soft-wooded grafting takes its place during February, March, and April. The wood or scions used for these is taken from early-forced plants grown on in gentle heat during the winter when they have assumed a certain degree of hardness; later batches are taken from the soft wood produced from the dormant grafts worked in November, which by this time will have made growths nearly 1 foot high. As the autumn grafts are taken out of the frames and stood on the stage in the house they will be replaced by the spring or herbaceous grafts, so that with ample supplies of Briar and other stocks in reserve a successional stock of plants can, in the hands of a good man, be worked up which would carry the season well on into five months.

As the grafts are taken out of the frame they may be placed on the stage near the glass inside the house to harden a little for a week or so, when they can be potted up into 5-inch pots; and if the union of scion and stock is kept well down in the soil the plant will soon be virtually on its own roots. After potting they must be grown on in gentle heat till well established, and when hardened off they can be either grown and plunged outside in the pots during the summer or be planted out. The French are very successful in this kind of business. Twenty or more years ago

I was under a very clever propagator at Versailles. For bottom-heat in the house a bed of well-fermented tan was used, and two copper pipes for top-heat. Instead of inside frames, *cloches* or very large bell-glasses were used that would cover six or seven grafted plants plunged on the tan bed, thus giving the utmost maximum of light; and I may say that out of the many thousands put on not more than about 5 per cent. failures were recorded. J., D. G.

NOTICES OF BOOKS.

A GLOUCESTERSHIRE WILD GARDEN (Elliot Stock).

THE time is approaching when to many it will be more comfortable to read of the wild garden than to lounge in it. And so, if we are rather late in welcoming this newcomer, at least we are opportune in recommending the perusal of this interesting volume now, when circumstances are more propitious for indoor employment than for outdoor work. The author tells us of his dreams and aspirations when in India, and of the ultimate realisation of his ideas in Gloucestershire. Moreover, he tells us how he achieved success. Shelter, sunshine, and an abundant supply of water—these are the secrets, according to the author. But in turning over his pages it is quite evident that the predominant factor is sympathy—sympathy with the work and the workers, sympathy with the plants. Without these a mechanical success may be obtained, but for full vital fruition the divine gift of sympathy, with all that it implies, is essential.

The description of the several departments of the garden and their contents is replete with interest. "Bamboos, as a rule, never flower in the English climate; and happily for us that it is so, for when they flower they die." Now this is a statement which, when the Curator, the Padre, and the Professor, who figure so prominently in this book, next meet, may well form the subject of a discussion. Certainly this year it has not been rare to see Bamboos flowering, and they do not all die in the sequel (see Mr. Bean's notes in our columns, September 5, 1903, p. 169). The *Hedychium* flowering in the open air, the Chusan Palms, the Lilies, and hosts of other plants, are descended upon by the author, who not only knows but feels what he is talking about; and this renders his work very pleasant reading. Whether the "some extraneous matter" which is interspersed throughout the book will meet with the same amount of approval is open to question; and the anti-vivisectionists and the adherents of particular theological dogmas may not see eye to eye with the writer; but in any case the ultimate objective is the truth, and many readers may respect the author's motives while they disapprove of his methods.

NATAL PLANTS, Vol. 4, Part I.

THE first part of the fourth volume of this excellent and well-illustrated work by J. Medley Wood, A.L.S., Curator of the Natal Botanic Gardens, Durban, and the Natal Government Herbarium, is just to hand. The subjects illustrated are *Cynanchum* (*Vincetoxicum*) *natalitium*, Schlechter; *Euphorbia natalensis*, Bernhardi; *Bowiea volubilis*, Harvey; *Drimiopsis maculata*, Lindley; *Kniphofia natalensis*, Baker; *K. fibrosa*, Baker; *Scilla megaphylla*, Baker; *Sclerocarya caffra*, Sonder; *Dais cotinifolia*, Linn.; *Dalbergia obovata*, E. Meyer; *Amarantus spinosus*, Linn.; *Richardsonia pilosa*, H. B. and K.; *Loranthus Dregei*, Ecklon and Zeyher; *Pavetta obovata*, E. Meyer; *Sideroxylon inerme*, Linn.; *Niebuhria rosmiinoides*, Sonder; *Plectranthus tomentosus*, Benth.; *Dioscorea malifolia*, Baker; *Triumfetta pilosa*, Roth.; *Hibiscus physaloides*, Guil-

lemin and Perrottet; *Kalanchoe longifolia*, Schlechter; *Plectronia spinosa*, Klotzsch; *Crasula pallida*, Baker; *Lagdera alata*, Schulz Bip.; and *Ocimum suave*, Willdenow. With each plant illustrated a scientific description is given, followed by records of habitats, and any information available respecting the economic value and the native name and uses of the plant. Under *Bowiea volubilis* the following note appears: "The juice of the bulb has irritant properties, but is not vesicant; the natives use it for rubbing on the skin in cases of sickness, and they take a portion of the bulb, boil it, and then strain off the water and use it as a lotion for sore eyes; and in the early days when an 'impi' or 'com-mando' was going out to war, the native doctors used to sprinkle the warriors with a decoction of the bulb, which was said to have the effect of making their enemies flee before them. The native name is 'Gibisila.'" The plant, with its greenish bulb and slender, twining growth and small, greenish, six-parted flowers, is of the order Liliaceae, and is often seen in gardens.

TREES AND SHRUBS.

CLETHRA ARBOREA.

THIS evergreen flowering shrub, often called the Lily of the Valley Tree, is a native of Madeira, and was introduced into this country in 1784. Occasionally fine specimens are to be met with in conservatories, either planted out or in tubs; but notwithstanding the great beauty of its flowers it is far from common. Complaint is sometimes made that it will not flower in a small state, but I have seen bushes laden with bloom that did not exceed 5 feet in height. These were placed in the open in May, and removed under glass shelter before the flowers expanded. The usual time of flowering is during the month of August, but specimens may sometimes be seen carrying bloom as late as October. In mild spots in the south-west this *Clethra* is hardy, and I know of several large shrubs growing in the open in Cornwall. In the Isles of Scilly it succeeds to perfection, and bears a profusion of flowers. During the past month I saw two plants growing in front of a house about five miles from Plymouth, both of which were in flower. These had been planted barely three years, but were fine bushy specimens 5 feet in height. The branching racemes carry drooping white flowers, very similar in contour and size to those of the Lily of the Valley, twelve or more sometimes being on the leading branch of the raceme, these blossoms having the additional merit of being delightfully perfumed. Many years ago there was, I believe, a fine tree of this *Clethra* about 30 feet in height growing in the open on Valentia Island, Ireland, which was unfortunately blown down in a gale. In its native land *Clethra arborea* exceeds this height, and there its branches are used to furnish hammock-poles. When flowering well, this *Clethra* far exceeds in beauty the American deciduous species; but these, being hardy, are available for gardens where *C. arborea* could not be expected to exist in the open. *S. W. Fitzherbert, South Devon.*

ARBUTUS UNEDO.

This shrub is unusually free in fruiting this season, and is one of the most ornamental objects in the pleasure gardens at the present season, its scarlet-coloured fruits hanging in great profusion. *Arbutus Unedo* is an evergreen shrub, which reaches a height of 16 to 20 feet (there are some bushes here of that height). The flowers appear in early autumn and are yellowish-white, and individually of about the size of Lily of the Valley. *W. A. Cook, gr., Shirley Park, Croydon.*

CAMPANULA CALYCANTHEMA, CUP-AND-SAUCER VARIETY, GROWING ON A WALL.

I ENCLOSE a photograph of a plant of the cup-and-saucer variety of the common Canterbury Bell, growing on a brick wall. A seed must have been accidentally dropped between two bricks, and the plant has grown and flourished as I have never seen it do in the border. By cutting off the spent flowers it was in bloom nearly the whole summer and autumn, though the roots have only the mortar of the wall to feed upon.

The photograph (fig. 147) was taken on October 24, and the plant looks little the worse to-day (November 1). No doubt the wet summer has a good deal to do with its flourishing condition, but still it is clearly a plant well adapted to rockery and wall culture. *Alfred O. Walker.*



FIG. 147.—CUP-AND-SAUCER VARIETY OF THE COMMON CANTERBURY BELL GROWING ON A BRICK WALL.

PLANT NOTES.

POTENTILLA NEPALENSIS.

IT is unfortunate that the introduction of the double *Potentillas* of hybrid origin has militated against the more extended cultivation of the single species and their forms, as many of these are of great beauty, and admirably adapted for cultivation in borders or in rock-gardens. This remark is not intended to depreciate the beauty and serviceableness of the double *Potentillas*, many of which are very beautiful flowers, but as a reminder that the single-flowered species and varieties are frequently of great beauty as well, and that their merits entitle them to a proportion of the favour shown by many to the double ones. Among the most pleasing of the single-flowered *Cinquefoils* we may place *Potentilla nepalensis*.

It is a plant which for a considerable period after its introduction in 1822 received a large amount of attention, and it was one of the species which was largely used for hybridising about that time. Nowadays it is less widely grown in proportion to the increased taste for flowers.

The figure given in Maund's *Botanic Garden* is a very good one, so far as it goes, although it only shows the upper portion of one of the forks of the flower-stem, with a couple of open flowers and some buds, together with an outline of the leaf. The colouring is, however, remarkably good, and gives a true idea of the colour of the type—a hue called "cherry" by some writers, though one can hardly accept it as a true definition of the tint, which has also a touch of purple or magenta, but not of an obtrusive character. In Mr. George Nicholson's *Dictionary of Gardening*, we are told that this species is like *P. argyrophylla atrosanguinea*, but with quinate, radical leaves. It is not so in colour, however, and the *Botanic Garden* colourist has hit the shade wonderfully well. It is apparent, however, that there is some confusion existing in connection with this species, and it is possible that it may be more variable than has been supposed. It is, according to the *Index Kewensis* and other authorities, synonymous with both *P. formosa* and *P. Mayana*. From seeds of *P. "formosa"* received by a correspondent of mine from the native habitats of the species, there are plants not only with the colour of the flower figured by Maund, but some with coppery-coloured flowers. I have one of the latter in my own garden. Then, from the garden of M. de Vil-morin, I have as *P. Mayana*, a plant which, one would say, belongs to a distinct species, each leaf having three instead of five leaflets. The flowers are nearer the colour of such *Potentillas* as the darkest of the double hybrids—almost as dark, in fact, as the blooms of the one called *Hamlet*. These flowers are considerably smaller than and not so open as those of *P. nepalensis*, as figured, and as I have known it for years.

As a rock plant *P. nepalensis* is seen at its best, as its general character and its semi-prostrate habit make it more suitable for rockwork than for the border. It does not look well with the flower-stems tied to a stake, as might be done in the latter, while its habit makes it less desirable for the front of the border, seeing that the flowers are at the ends of somewhat long forked stems. It likes, also, a rather dry and sunny position and excessive moisture at the root in winter is sometimes fatal to it. It is readily raised from seeds, and a little pegging down of the flowering-stems will induce them to form roots. Fortunately, however, its habit of sending out runners is not so developed as is the case with such plants as our native *P. reptans*, whose single or double form becomes such a pest in any garden whose owner introduces it in an incautious moment. The main defect of this *Potentilla*—if it can be said to have one—lies in its somewhat "sprawling" habit, a defect not so pronounced as to deprive it of its value and beauty. *S. Arnott, Carsethorn-by-Dumfries, N.B.*

CLUB-ROOT.

JUST one more attempt to make clear my position in regard to this subject, which up to the present has not been grasped by anyone, presumably owing to my lack of lucidity. The principal point to remember is that cruciferous plants can only be attacked by the organism causing club-root during the seedling stage. When a plant is six weeks old it may for all practical purposes be considered to be immune against the attacks of club-root, even if planted in soil containing the germs of the disease.

Now those correspondents who from time to time have stated that, after treating the land with gas-lime, Cabbages, &c., planted in such ground were severely attacked, did not realise that they planted Cabbages already infected with the disease; and perhaps they will not believe it now. However, such must have been the case; and granting that a Cabbage could grow in pure

gas-lime, even that drastic treatment would not check the progress of the disease if the Cabbage was infected when planted.

If Cabbage-plants are grown in seed-beds absolutely free from disease they will remain healthy so far as club-root is concerned. In some instances seedlings show symptoms of the disease under the form of knots on the root when very young; others again, although diseased, do not show any external indications when old enough to plant out. Finally, are people generally careful not to plant obviously diseased plants? I think not. During the past season I saw large numbers of such plants with knotted roots used, and was informed that the disease would die out if the plants grew quickly. This may be so sometimes, but it is not the rule. It is not an uncommon thing to see bundles of infected Cabbage-plants offered for sale in public markets.

When a crop is ruined by club-root, how do people generally act? Leave the plants to rot on the ground, make a manure-heap of the remains, or collect the diseased plants and burn them? In future, grow seedlings in soil that is free from disease, choosing a dry, airy situation; and do not plant-out in infected ground for some few years. *Geo. Massee.*

CHRYSANTHEMUMS AT DOVER HOUSE, ROEHAMPTON.

On a recent visit to the gardens of Mr. J. Pierpont Morgan, at Dover House, we found that Chrysanthemums have again been cultivated with the same care and enthusiasm as ever. The season has not been one of the best for varieties that require hot sunshine in order that the growths and buds may become properly ripened, but upon the whole the collection has been as good or better than ever, the only varieties failing to give first-class flowers being those of the Madame Carnot section. Mr. J. F. McLeod, gr. to Mr. Morgan, does little or no exhibiting, and his collection of varieties therefore is not decided from that point of view. Whilst every new variety is obtained so soon as its value can be ascertained, the best of the old ones are retained also; consequently the collection is as good as it can be made. The varieties Mutual Friend and Vivand Morel are given the same prominence as such newer ones as Mrs. Greenfield, Nellie Pockett, Lord Ludlow, Godfrey's Triumph, and Mrs. Barkley. During most of the time the Chrysanthemums are in bloom an exceedingly bright display is made in another house with *Salvia splendens grandiflora*, which, in common with all plants in this garden, is cultivated to the best degree possible. *Begonia Gloire de Lorraine* is very beautiful at the present time.

CULTURAL MEMORANDA.

VIOLETS IN PITS AND FRAMES.

SOME remarks on Violets growing under glass may not be out of place at this ungenial season when Violets are in great request in gardens large and small. In order to have Violets in plenty the cultivator must be thoughtful and careful, more especially must he be careful in the use of the watering-can, which vessel for the present he had better put out of sight; and, on the other hand, he must be most assiduous in the matter of affording air to his frames, for if he keeps them too close the plants will become drawn and soft—the latter point especially, or they will not have enough strength to withstand severe frosts without undue coddling. On every fine day the frame-lights should be removed entirely in the morning, replacing them about 4 P.M., also leaving an opening by night when the weather is not very wet, rough, or frosty.

In order to lessen the risks of damping-off let each plant be examined carefully, picking off decaying parts, then with a small handfork loosen the surface-soil, and place thereon a layer of about 1 inch of small split shingle or clean white granite chips; this will prevent the soil from getting impervious to the air, and will dispel much of the surface moisture, which is injurious to the plant at this season. It is surprising to find how quickly on the admission of air in the morning the shingle referred to dries up, and in the event of sunshine occurring it holds the warmth and presents at all times a nice clean surface whereon the flowers can develop to perfection. Let there be no trampling of the soil between the rows when picking the flowers, but reach them from the sides and ends of the frames. If at any time the beds require water, apply it, if possible, on a sunshiny morning, so that the leaves may become dry before evening. *H. Humphrey, Kyson, Woodbridge.*

The Week's Work.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. Pigott, Bart., Wexham Park, Slough.

Asparagus.—The preparation of the ground for beds or simple plantations should now be taken in hand, although the planting must not be carried out till the spring. The site should be open, yet sheltered from the rougher winds, and where the soil is of a good depth. If the land is light and friable, only ordinary trenching and manuring will be necessary; but if heavy, some lightening materials should be trenched into it, the soil rendered warmer by deep drainage, and by trenching it 3 feet deep, the bottom spit being turned and well loosened without bringing it to the surface. Any such materials as mortar-rubbish, wood-ashes, road-scrappings, half-decayed garden-rubbish, rough litter, &c., may be dug into the bottom of the trenches, and over this a layer of manure may be placed; and on the top of the second spit some shorter manure. The soil should be left rough till the spring, when a heavy dressing of coarse sand should be forked into it before proceeding to plant. Although *Asparagus* plants will produce excellent heads for many years, the best results are obtained from such as are not more than six years old, and plants of this age are also the best for forcing. Where a regular supply of *Asparagus* is required in the winter, batches of roots should be put into heat weekly or at intervals of ten days. The forcing may be done in hot-water pits on beds of tree-leaves, or in ordinary frames set on hot-beds made chiefly of leaves and stable-dung, with an outside wall of stable-litter only. The temperature of the bed need not rise higher than 75°, and that of the frames 55° to 60°.

Salads.—In some places the gardener must supply a salad every day—an easy enough matter in the warm season, but not so in winter and early spring. At the present season Lettuces in frames should be afforded abundance of air in mild weather, and protection against frost. Should the spring supply of Lettuces threaten to be unequal to the probable demand, sow seeds of the forcing varieties in shallow boxes and place these in heat of about 50°, and when the seedlings are large enough to handle prick them out into boxes filled with rich light soil at 3 inches apart, and keep near to the glass. Carter's Harbinger and Veitch's Golden Queen are two excellent Lettuces for present sowing. Endive should be blanched in numbers according to the demand, and Onions may be sown thickly in boxes for drawing young.

Peas.—The once common practice of sowing Peas out-of-doors in the present month has nearly fallen into abeyance, and I cannot recommend it, as the risk of losing much of the seed or the plants before the winter is passed is too great. If it be decided to sow at this season a south border should be chosen for the crop, and the seeds previously damped and rolled in red-lead before they are sown. Where warm pits or frames

are at command, good results may be obtained by sowing early dwarf varieties. A good compost should be prepared in which to grow them, and only sufficient head room allowed for the haulm to attain its full height without actually coming into contact with the glass. Afford abundance of air at all times. Carter's Daisy, Sutton's Defiance, and Veitch's Chelsea Gem are all valuable dwarf Peas for present sowing.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. Fortescue, Esq., Dropmore, Maidenhead.

The Peach and Nectarine.—In continuation of my remarks on the forming of a border for planting these fruits, it may be stated that the gardener will be guided by the height of the wall as to what kind of trees will be best suited for covering it quickly. The usual height of garden walls is from 12 to 15 feet, and for a wall more than 10 feet high plant dwarf, fan-formed trees at 20 to 24 feet apart, and between each two of these plant a standard or so-called rider, which will sooner cover the upper part of the wall than dwarf trees. Walls of 10 feet in height may be planted solely with fan-trained trees. A good selection of Peaches for outdoor cultivation will consist of Amsden June, Alexander Early, Bellegarde, Early Silver, Grosse Mignonne, Noblesse, Violette Hative, Nectarine Peach, Sea Eagle, Late Devonian (large, handsome, and fine flavour), and Walburton Admirable, a variety excellent for culinary purposes in October, and in a fine, warm autumn good for the dessert. Of Nectarines, choose Elruge, Early Rivers, Downton, Humboldt, Lord Napier, Pineapple, and Victoria. Where the soil is favourable for these varieties, the White Nectarine and Rivers' White may be planted, for although the trees are rather tender, the fruits are delicious.

Pruning the Pear.—Now that the leaves have fallen, the pruning of Pear-trees should be forthwith commenced. In pruning these trees it is necessary that the knifeman know something of the habit of growth of the different varieties. Such varieties as Josephine de Malines, Winter Nellis, Marie Louise, Jargonelle, and other weak growers, form many fruit-buds at the ends of the current season's shoots, and if these shoots are not of too great a length, they may be left to bear fruit, and afterwards shortened or removed. Should any fruit-buds form at the ends of the shoots required for extending the tree, they should be rubbed off, or the shoot cut back to a wood-bud. Shoots which were pinched at the points at the summer pruning should be shortened to two buds; and in the case of aged trees, whose fruit-spurs are long, remove a certain proportion of them to within an inch of the branch with the pruning-saw, smoothing the wound with a knife or chisel. Remove all old and weak fastenings, and put them into the garden-furnace, and secure the main branches with tarred string or wythes, and the ends of the branches with shreds and nails, taking care, in the case of young and vigorous trees, that the ligatures are loose. Newly-planted trees should be lightly fastened to the wall, and the final nailing left until the ground has settled.

FRUITS UNDER GLASS.

By T. H. C.

Winter-fruiting Cucumber plants.—Do not over-crop the plants, but thin the fruits so as not to leave more than one to a joint; and as soon as a fruit attains to a usable size, remove it and place it stem downwards in a saucer containing water in a cool place. Pinch off all the male flowers, tendrils, and spent leaves, and stop the shoots at a joint beyond a show of fruit. As soon as the roots show at the surface of the last top-dressing, apply another of about an inch in thickness, letting this consist of equal parts good loam and stable-manure. Water must be applied to the roots with much discretion, affording it copiously when necessary. Rain-water in a tepid state is the best. Avoid dribbles that keep the surface-soil wet without penetrating to the bottom of the border, where the soil is apt to become dry through its proximity to the hot-water-pipes. Very seldom will ventilation be feasible at this season,

but advantage should be taken of a bright, mild day to afford ventilation in a small degree at the top of the house about midday, but closing soon afterwards. Cold draughts should be carefully avoided, or mildew will be sure to appear. Maintain a night temperature of 68° to 70°, and by day of 75° to 80°; do not syringe the plants except early in the afternoons of fine days, but keep the air in a humid state at all times. Let a sharp lookout be kept for red-spider and other insect pests, also mildew; and take prompt measures against them on appearance. In very frosty weather put mats over the roof at night, and thus avoid having unduly to heat the hot-water apparatus in trying to keep up the right degree of warmth.

Winter Tomatos.—The opening flowers should be fertilised daily. The July-raised plants will now be carrying a nice crop of fruit, but in the absence of sunshine the ripening process will be very slow. When the points of the plants grown in pots become thin and weak it is usually a sign of exhaustion, and that a top-dressing, consisting of equal parts of good loam and spent Mushroom-bed manure, a 6-inch potful of Clay's Fertiliser to a wheelbarrowful of soil, is called for. Thin out the foliage so as to admit sunshine to the fruit, doing this gradually. Maintain a night temperature of 58° to 60°, with a rise of 10° by day, with free ventilation when the weather is favourable, and at all times keep the air in a dry condition.

Early summer-raised Tomatos, if still carrying ripe fruit, may be continued in fruit by allowing the points of the stems to extend; or they may be turned back and layered in the soil of the border, and afterwards treated as young plants. To raise plants that will succeed those now fruiting, seeds may be sown at this date of Ruby Gem, Ham Green, Frogmore Selected, or other early-fruited varieties, placing the seed-pans in the stove; and as soon as the seedlings appear place them upon a shelf close up to the roof, and when two or three rough leaves have been made pot them singly in thumbs and return to the stove.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bilton, Budleigh Salterton, Devonshire.

Solanums.—The berries are generally slow in colouring this season, and plants with fruits imperfectly coloured should be afforded a small amount of fire-heat and abundant ventilation, with applications of weak manure-water occasionally. Pinch out all new shoots, and fumigate the plants occasionally.

Cytisus.—These plants should be allowed to come along gradually in a greenhouse and not forced in heat, the display being then much finer and more prolonged. Established plants may be afforded weak manure-water once a week, not oftener, as the roots are easily damaged. Similar remarks apply to *Coronilla glauca* as regards water at the root. These plants are in full flower just now, and they will flower again freely in the spring; in fact, these plants bloom continuously from September till early in the month of May.

Salvias.—*S. splendens* and *S. rutilans* are now in full beauty, and should be assisted with weak guano or soot-water, otherwise the foliage may turn of a yellow tint. The latter variety will become showy again towards March if kept clean and free from red-spider, which is apt to infest the plant when kept in warm houses. Plants of *S. Pitcheri* or *azurea grandiflora* should be cut down as they pass out of flower, and be plunged in coal-ashes in a cold pit or frame, or stood in a cold vinery or Peach-house. The two varieties *S. Heeri* and *S. gesneriflora* should be kept as cool as possible until the flowers are well expanded, which in the latter case will not be until March, but *S. Heeri* flowers early in the new year.

Carnations.—The autumn was one of the worst for these plants, so much rain and dull weather being all against them, especially the *Souvenir de la Malmaison* varieties, which readily fall a prey to the horrid "rust." During such adverse weather a free circulation, fair night and day, with sufficient fire-heat to dispel damp from the house, should be maintained, although in Devon for the past ten days the air has been much drier

and buoyant, and fire-heat has not been needed. Pick off any affected leaves immediately they are discerned, burning them forthwith, and then sprinkle the plants with flowers-of-sulphur or powdered lime.

General remarks.—Advantage should now be taken thoroughly to cleanse the plants in the stove and other warm houses with a sponge and warm soapsuds, as they are sure to be more or less dirty or insect-infested. To do this will brighten up the leaves of *Codiaeums*, *Dracenas*, *Pandanus*, *Acalypha*, *Aspidistras*, *Palms*, and other decorative plants. Having cleansed the plants, freshen up the soil and make the pots and tubs clean. A good stock of loam, peat, leaf-soil, &c., should be placed in the potting-shed in readiness for use; also cart in loam, obtaining it as turf 2—3 inches thick, and stacking it the grassy side downwards; and should it be of poor quality, afford a good layer of cow or oxen-manure between the layers of turf.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Lælia Cowani is a handsome species, which blooms in the spring, and which might be grown with *L. Goldiana*, *L. autumnalis*, and others mentioned in my last Calendar, requiring similar treatment, and now in the middle of its growth should be afforded plenty of light, and of moisture at the root at all time, so as to impart robustness to the pseudo-bulbs. When at rest, much less water at the root will suffice; but, like all of the thin-bulbed *Lælias*, the plant should not be rested quite so dry at the root as those having thicker pseudo-bulbs.

Epidendrum fragrans.—An attractive species now in flower in the Cattleya-house. The flowers are of small size, and fragrant. It succeeds when planted in shallow pans hung from the rafters in the warmer part of the Cattleya-house. A mixture of equal parts of peat and sphagnum is suitable as a rooting medium. Whilst growing, plenty of water is needed at the root; but from the present time the plant should be resting, and a very small quantity of moisture will be needed.

Calanthes.—Most of the foliage having ripened and fallen from the plants, and the flower-spikes attained a height when it is very necessary to afford them support, but a very small quantity of water is required at the root, just as much as will forward the development of the flower-spikes. If the plants occupy a house to themselves it must be kept rather drier than moist, more especially when the flowers begin to open, or there will be losses from damping-off.

Degrees of Warmth.—Early in October I advised the lowering of the temperatures a few degrees, in order to prepare the plants for winter, and we have now to make use of the hot-water-pipes for the maintenance of the desired degree of warmth in the various houses. The following figures will serve the tyro as a guide, these being kept to as nearly as circumstances will allow, viz., the stove or East India-house, by day 74°, and by night 68°, in the morning 64°; Cattleya-house, by day 68°, at night 64°, in the morning 60°; Intermediate-house, by day 62°, by night 58°, in the morning 55°; Cool or Odontoglossum-house, by day 58°, by night 54°, in the morning 50°. These readings will vary slightly according to the state of the weather, especially during the day, but with the use of artificial heat they should be kept to as nearly as possible, which can only be done with careful stoking.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Rockeries.—Where there are deciduous trees in the neighbourhood of a rockery or Alpine garden, the pockets containing small-growing or delicate plants should be examined at this season, and the accumulations of tree-leaves removed, otherwise many plants will be smothered and killed. By the time that these notes appear in print the fall of the leaf will be at an end, and a thorough clearing up may be undertaken. At the same time it will be advisable to root-out or curtail the growth of many strong-growing plants, which

would otherwise overgrow weaker subjects. One of the most aggressive plants which I have introduced to the rockeries at Shipley is the new double-flowered *Arabis albidia*. Strong-growing naturally, and assisted by a mild and wet season, this plant has grown out of all bounds. After relieving the plant-pockets and recesses of leaves and weeds, afford top-dressings suitable to their requirements. In most cases this may consist of charred soil from the rubbish-yard mixed with leaf-mould. Ordinary road-grit, too, is another useful substance for many species of plants, notably *Saxifrages* and *Sedums*, whilst *Gentians* are improved by granite, and *Lithospermums* with a sandy mixture, to induce the formation of stem-roots. The mossy *Saxifrages* should be pressed in the centre firmly down to the soil, either by the hand or foot.

Rock Plants in Frames.—Some weeks ago I advised the removal of side shoots of many kinds of rock plants of which the stock is limited, and inserting them as cuttings in pots or boxes. These will now be occupying a cold frame in a light position, and must be well guarded from drip, though exposed to the air on all favourable occasions. If the pots stand on a moist bottom there will scarcely be any necessity for applying water before the return of spring.

Dwarf Evergreens.—Where these are used for furnishing the beds during the winter they may now be planted.

Alterations.—The present somewhat slack season affords opportunities of dealing with minor alterations and repairs to paths, drives, and turf. Good paths are a very necessary adjunct to a garden, and attention is often required to the levels and watercourses, gratings and runnels, so that pools may not form even in the wettest of weather, or the water gather in volume and tear up the gravel paths or run over on to the turf. Ivy which has grown unwieldy and out of bounds may have most of the surplus growth removed and the fastenings seen to; the bushy growths cut out will, if put in a heap outdoors, keep fresh for Christmas decorations.

THE APIARY.

By EXPERT.

Removing Bees.—Much difficulty seems to be experienced in the removing of bees by road or rail, but if ordinary care be exercised very little difficulty need occur. In the first place the bees should be removed, if possible, in cold, frosty weather, and the hives properly secured at the entrance either by closing it altogether and screwing the slides to the body-box, or by placing a piece of perforated zinc plate over the entrance; and the latter is better if the bees have to travel a long distance. The zinc should be secured by using small screws instead of nails, as the jarring in using a hammer is certain to disturb the bees. The floor-board should be securely screwed to the body-box, and a small strip of wood tacked from leg to leg to strengthen them. The outer cover of the body-box should also be fastened to the inner case, and the roof screwed to the body-box as well; the whole should then have a stout cord passed over the hive from back to front and running also from side to side, and be carefully lifted independent of the cord. The wire, where possible, should be removed first, as the hive will not be so high for lifting, or take up so much space either. A small strip of wood about 2 inches wide and about $\frac{1}{2}$ or $\frac{3}{4}$ of an inch thick, and the same length as the body-box, should be placed over the ends of the frames on each side, and screwed down to the body-box. This will prevent the frames from moving about, and is not so likely to shake the bees. The escapes in the roof should also be blocked up, as bees getting through from below and escaping is likely to cause annoyance, and oftentimes serious trouble. The escapes can be opened the next day to release any bees in the roof, after they are placed in their new quarters already prepared for them.

Candy cake should be given to stocks where necessary without disturbing the bees, and new quilts and coverings given to hives which have not one.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY,	Nov. 23	National Chrysanthemum Committee meet.
TUESDAY,	Nov. 24	Royal Horticultural Society's Committee meet. Lecture on "Pomology as a Study."
WEDNESDAY,	Nov. 25	Royal Botanical Society meets. South Shields Chrysanthemum Society's Show (2 days). Nat. Chrys. Society's Annual Dinner.
THURSDAY,	Nov. 26	Irish Gardeners' Association Meeting.

SALES FOR THE WEEK.

MONDAY to FRIDAY NEXT—		
Dutch Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.		
MONDAY, Nov. 23—		
Bulbs, Roses, Azaleas, &c., at Stevens' Rooms, at 12.30.		
TUESDAY, Nov. 24—		
Clearance Sale of Greenhouses, Pits, Piping, Carts, &c., also Solanums, Roses, &c., at Cuckoo Hall Nursery, Cuckoo Hall Lane, Lower Edmonton, by Protheroe & Morris, at 12.		
WEDNESDAY, Nov. 25—		
100,000 Fruit Trees, at Perry Hill Cliffe, near Rochester, by order of Messrs. Horne & Sons, by Protheroe & Morris at 12.—Palms, Azaleas, Roses, Herbaceous Plants, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 10.30.—Bulbs, Roses, Rhododendrons, Azaleas, &c., at Stevens', at 12.30.		
FRIDAY, Nov. 27—		
1,500 Dendrobium Phalaenopsis and other Orchids, by Protheroe & Morris, at 67 and 68, Cheapside, E.C., at 12.30.		
(For further particulars see our Advertisements columns.)		

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick - 41°5.

ACTUAL TEMPERATURES:—
LONDON.—Nov. 18 (6 P.M.): Max. 44°; Min. 37°.
PROVINCES.—Nov. 18 (6 P.M.): Max. 44°, South Coast; Min. 36°, South of Ireland.

Seasonable Hints.

We have now come to the end of a wet and sunless summer. Astronomers tell us there have

been many spots on the sun, and our rain-gauges inform us that an abnormal amount of rain has fallen. As a consequence all kinds of vegetables, including weeds, have been extra vigorous, and shrubs and trees have put on much coarse growth. Now the short autumn days have come we cannot hope for this growth to ripen, and so we may expect the first severe frost to play havoc with our fruit-trees and all tender shrubs, but more certainly with those of exotic origin.

The careful cultivator, be he gardener or amateur, will perhaps be glad of a few practical hints how best to protect such subjects that he knows to be tender in the borders or the shrubberies he has charge of. The only sure way with some of them is to lift them and provide them shelter in some glass structure; but all do not possess such conveniences, and where they have they find them inconveniently crowded with plants already, so something must be devised to afford protection to such shrubs in the open as will be likely to suffer from a severe winter.

Where expense is no object, bast-mats and Frigi-domo can be used; but many can ill afford these, and so recourse must be had to such protective material as can be cut from the plantation or from the common. The branches of Spruce and other Firs, the common Gorse or Furze, are very suitable for this purpose, and, as a rule, may be had simply for the trouble of cutting, while from the same source may be obtained bracken (*Pteris aquilina*), which, cut when almost mature, tied in bundles loosely and dried, will form admirable protective material for Roses and tender trees and shrubs. This is preferable to mats, as it is not unsightly and it does not coddle the plants, &c., protected.

Standard Roses are sufficiently sheltered by tying bundles of bracken loosely into

their heads, and if this be supplemented by a thick mulching of strawy stable-dung, they will be safe even in severe frosts. Dwarf Roses may be treated in like manner; but if the bracken be cut long, and the lower part of the stiff rachis be bedded in the soil and the apex of the fronds drawn together into a point above the Rose, security is almost certain, and the wind will have little chance of removing the sheltering materials.

Young specimens of choice but tender Conifers, as *Fitzroya*, *Juniperus sinensis*, *aurea*, *Abies bracteata* and *nobilis glauca*, &c., or the small Umbrella Pine (*Sciadopitys*), may be protected in like manner, as, indeed, may any tender subject that has an erect, pyramidal habit of growth. Some care is requisite to prevent the sheltering material from injuring or bruising the leaders, especially in late-growing Conifers, like *Pinus insignis* and others.

Shrubs that are generally recognised as tender are nailed against walls or wooden fences, where the least additional protection is called for. This may be cheaply furnished by branches of any common evergreen conifer, or gorse. In this section may be included the very handsome variegated *Eurya*, and the Indian *Daphne*, which latter, flowering in the very early spring, is too often crippled by late frosts; but, singular to say, its white form is hardier than the type, a very unusual circumstance, as most albinos are tender.

In the north and east the neat *Azara microphylla* and the noble scarlet-flowering *Desfontainea spinosa* are too tender for the open, but with a little care they do well on a fence or wall. In favourable positions the Chilean Fire-bush, *Embothrium*, does well in the open; but this is safer on a wall, where it also flowers more freely, and needs but little protection, as it grows early, and matures its wood before the frosts come. Hardly less handsome are the *Escallonia*s, which form such admirable seaside plants. Though fairly hardy in the south and west, they need protection in the midlands and in the north; the best are *E. macrantha* and *E. Philippiana*. The true Bay, *Laurus nobilis*, and the various *Laurustinus*, are tender in the same degree as the last, but the fine *Laurustinus hirsutus* is worthy the shelter of a fence at any time; on the Continent this species is grown in pots and tubs for conservatory decoration.

The noble *Magnolias* must by no means be forgotten, and while the deciduous kinds may be left to take care of themselves, the Exmouth variety of *grandiflora*, the finest of all flowering evergreens, deserves all the care that can be lavished on it. A thin St. Petersburg mat or some like protection is safest in this case, but let it be fixed at least a foot from the wall, or the leaves will be bruised and spotted through contact with the mat.

The handsome Chinese Privet is frequently injured by frost, and its elegant bloom-spikes destroyed; but a little bracken or gorse placed in front of and above it will give it all the shelter it needs; and the same may be said of the delightfully-fragrant *Osmanthus ilicifolius* and the Japanese *Skimmias*, whose habit is to flower before our late frosts have gone, and so we rarely get any of their coral-red berries. The noble *Photinia serrulata* is better for some pro-

tection, as it grows late; but its near relative, the *Raphiolepis*, with its dark coriaceous leaves, is well able to stand our severest winters.

Finally, the New Zealand *Veronicas*, *V. Andersoni* and its variegated form, and others, are very deserving of a little care at this season, and if planted in the open may be conveniently screened by branches of gorse, or long stable-manure may be placed round them, and cleared away or dug in when all danger of frost has passed.

OUR SUPPLEMENTARY ILLUSTRATION this week may be taken as a contrast to the one given in our last issue. There, all was formal and geometric; here, a more natural style prevails. The buildings were erected at the instigation of MARIE ANTOINETTE, who in the midst of her state loved to play the dairy-maid at Trianon. This part of Versailles is laid out as an English pleasure-ground, and in its surroundings forcibly calls to mind the pleasure-ground at Kew, with the Queen's Cottage. (See also p. 254.)

ROYAL HORTICULTURAL SOCIETY.—The next meeting will be held on Tuesday, Nov. 24, in the Drill Hall, Buckingham Gate, Westminster. A lecture on "Pomology as a Study" will be given by Mr. LEWIS CASTLE at 3 o'clock.

—At a general meeting held on Nov. 10 forty-five new Fellows were elected, making a total of 1,281 elected since the beginning of the present year.

LONDON UNIVERSITY: LECTURES IN ADVANCED BOTANY.—Mr. A. D. HALL's fifth lecture was given at the Chelsea Physic Garden on November 17, and dealt with the development of the Wheat plant and the quality of the grain. The stages in the growth of the crop were discussed. The winter stage consists mainly in the formation of roots, which is stimulated by a comparatively dry condition of the soil. At Rothamsted the crops following dry winters have been, on the average, larger than those following winters of more than average rainfall. After the winter, nutrition from the soil becomes active, as also does assimilation when the leaves develop. Nutrition ceases comparatively early, before the bloom begins; but assimilation continues, though by the time the grain is beginning to form it is only able to balance the losses by respiration, so that the gross weight of the crop does not increase. During the formation of the grain the chief change going on is a migration of the previously elaborated material from the straw and leaves to the grain. Finally, maturation is accompanied by a slight loss of weight through respiration, no longer balanced by assimilation. Various analyses of the Wheat crop at successive stages of its growth were given to illustrate the above points. The question of quality in the grain was then dealt with; certain foreign Wheats command a much higher price than English corn because they possess "strength"—roughly, the power of making larger loaves. Strength is associated with a higher nitrogen-content in the grain, and seems to be dependent on a comparatively forced ripening. For example, it is greater with Wheats of a short period of growth, and is generally increased by spring sowing and by cutting the grain before it is ripe. Though Continental climates are the main factors in producing strong Wheats, "strength" to a certain extent is a character varying with the variety, and therefore capable of improvement by cross-breeding and selection. Finally the influence of soil on the quality of wheat was discussed, in view of the fact that the best and largest crops are grown on the strong soils. The next lecture will be given on Tuesday, November 24, at 3 p.m., and will deal with Barley and the Root Crops.

PROFESSOR HUGO DE VRIES.—On October 25, the twenty-fifth anniversary of the appointment of HUGO DE VRIES as Professor in the University of Amsterdam, Professor WENT, on behalf of his Dutch friends, presented him with the sum of 4,250 gulden (rather more than £350). The request was made that this fund should be devoted to the furtherance of future investigations into the theory of Mutation.

MODELS OF FRUIT AT THE ROYAL HORTICULTURAL SOCIETY.—No doubt it would be very desirable to have a good representative collection of models, but unless some officer were specially told off to take care of them, we fear the result would ultimately be the same as that which accrued to the once fine collection of models possessed by the Society. We retain a vivid recollection of broken cases and smashed models in the arcades of South Kensington. Such a collection should be placed in some Government establishment, where a greater degree of permanence could be relied on.

EMPLOYERS AND EX-SOLDIERS.—We are requested to publish the following communication:—

"As Chairman of the National Association for the Employment of Reserve and Discharged Soldiers, I should be grateful if you can find room for the following appeal:—

For over eighteen years employers of labour have been most patriotic and generous in offering situations in civil life to ex-soldiers, especially at the close of the late war; indeed, thanks to them, of the 24,000 men registered, 18,000 men have been given permanent employment during the last eighteen months, through the head office and ninety-six branches of the National Association, in the United Kingdom and South Africa. Of late, applications for men have been very scarce, owing largely to depression in trade, bad weather, &c., and perhaps to a vanishing interest in the soldier now that the war is over.

Candidates for registration are daily increasing owing to the present service of three years with the colours instead of seven years as heretofore. The winter is upon us, and I earnestly beg employers, and especially the County and Borough Councils, to continue to show their sympathy to these men, who deserve well of their country. We specially need work for coachmen, grooms, carmen, timekeepers, doormen, warehousemen, porters, packers, labourers, &c.

I will not deny that, notwithstanding the fact that we only take men of 'exemplary,' 'very good' and 'good' character, and keep all references up-to-date, certain men have proved themselves unfitted for the situations given them—such failures are not confined to ex-soldiers alone—but, on the other hand, the majority have done exceedingly well in the employment procured for them.

I need not mention how important it is for the advancement of recruiting, that men who have secured a good character while serving with the colours should not be left out in the cold on return to civil life, but I would also point out to busy employers by telephoning ('387 Westminster'), telegraphing ('Employment London'), or writing to the Secretary of the Association, they can at once be supplied with respectable men, accustomed to discipline, to fit any vacancy, without the expense of advertising, or the trouble of dealing with the letters and references of possible hundreds of applicants. Trusting that my appeal may meet with a ready response. Fred Green-Wilkinson, Lieut.-General, 119, Victoria Street, S.W."

AN OLD-FASHIONED GARDEN AT ST. LOUIS.

—An old English garden is to be reproduced at the World's Fair in St. Louis by Mr. T. W. BROWN, recently landscape architect to the Sultan of Morocco, who has arrived in St. Louis to supervise the transformation of the grounds surrounding Great Britain's building at the Exposition into an English country-seat garden of 200 years ago. The plans of the garden were partly worked out before Mr. BROWN departed from England. The British building, now nearing completion, is a replica of the famous Orangery in the grounds of Kensington Palace, the birthplace and home of the late Queen VICTORIA. This structure was built by Sir CHRISTOPHER WREN in 1704, under the direct orders and the critical eye of Queen ANNE. The orangery, which fronts on Skinner Road, is 171 feet long; it has a width of 32 feet, exclusive of the two wings, which extend back toward the

Administration building. The grounds surrounding this structure are subject to Mr. BROWN's landscape treatment. "In the garden which we shall create here," says Mr. BROWN, "there will be no paling fences and no Geranium beds, such as I observe in the American gardens. Hedges will be a predominant feature at the very borders of the garden, giving it a distinctly English motif; and instead of the blossoms chiefly featured in present-day landscape treatment, we shall have the old-fashioned flowers as our chief aids to colour value." If any garden of the present time may be cited as a model for the one that is being created, the famous grounds at Hampton Court may stand in that position. The gardens surrounding Hampton Court were created simultaneously with the Queen's Orangery, being begun in the same year, and brought to their highest elegance seven years later, in 1711. Lord BACON took occasion to protest against the clipping and shaping of the Juniper, the Yew, and other shrubs, into the forms of birds and animals, saying that he disapproved of that style of evergreen architecture; but notwithstanding this protest from high authority the landscapers of the country seats persisted in applying this idea in the treatment of their evergreens. In many English parks and gardens there are yet to be seen the shapes of peacocks, lions, and other birds and animals, in growing shrubs, deftly pruned each season to retain the intended form. Mr. BROWN intends in the garden at the World's Fair to introduce some of these odd figures. One who has not made a pilgrimage to some of the old country places of the English shires can scarcely appreciate the wonderful results obtained by the landscapist in the growing of evergreens in such forms. But perhaps the most English of any of the features of this old garden will be the "pleached alley" extending along one side of the Orangery tract. Rows of Poplars or other handsome trees, planted in parallel, will form the side walls of the alley. Their branches, so trained as to meet and cross each other overhead, will form a roof of shade, through which will flicker just enough sunshine to afford the proper degree of light. *American Gardening.*

THE SURVEYORS' INSTITUTION.—The session was opened with an address by the President, which, in Mr. BUCK's absence through illness, was read by the Secretary. A vote of thanks was unanimously passed to the President for his address. The next ordinary general meeting will be held on Monday, November 23, 1903, when a paper will be read by Mr. HERBERT T. SCOBLE (Professional Associate), entitled, "Industrial Decentralisation, an Important Factor in the Solution of the Housing Problem." The chair will be taken at 8 o'clock.

THE REV. DAVID R. WILLIAMSON, of Kirkmaiden, N.B., author of *Poems of Nature and Life*, and Fellow of the National College of Music, and a frequent writer in this Journal upon Roses, Lilies, &c., has been elected President of the British Guild of Musicians.

THE ANNUAL DINNER OF THE NATIONAL CHRYSANTHEMUM SOCIETY.—The New President, Mr. C. E. SHEA, will preside at this event on Wednesday evening next at the Holborn Restaurant. The Committee hope there will be a large attendance. Time 6.15 P.M.

READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The members assembled at their last fortnightly meeting, under the Chairmanship of Mr. G. STANTON, when Mr. TOWNSEND, gr., Sandhurst Lodge, read a paper on "Water and Bog Plants." Methods of cultivation were given, and receptacles indicated in which aquatics could be cultivated. Varieties were then given, and the depth of water most suitable to flower them freely. The plants touched

upon included *Aponogeton distachyon*, *Hottonia palustris*, *Anagallis*, *Villarsia nymphaeoides*, *Ranunculus aquaticus*, *Richardias*, *Pontederia cordata*, *Thalias*, *Sagittarias*, *Cyperus*, *Mimulus*, *Calthas*, *Fuchsias*, *Hydrangeas*, *Erythrina*, *Iris Kämpferi*, *Lobelia cardinalis*, *Gunnera manicata*, herbaceous *Spiræas*, *Senecio japonica*, *Daffodils*, *Wood Anemones*, &c. The lecture was illustrated by a number of lantern-slides.

THE PUBLIC PARKS AT GLASGOW.—Mr. JAMES WHITTON, the Parks' Superintendent, gave a very interesting lecture on this subject on Friday evening last in the Berkeley Hall, under the auspices of the Glasgow Corporation. Councillor BILSLAND occupied the chair, and was accompanied by several other members of the Town Council. The Chairman, in introducing Mr. WHITTON to a large gathering, intimated that he was making his *début* as a lecturer. Mr. WHITTON prefaced his remarks by giving a brief record of the history of Glasgow Green, situated on the north bank of the Clyde, and which, fifty years ago, was the only open space in the city. Since then numerous beautiful parks have been bought or presented to the Corporation, including the Botanic Garden; and a description of these was given, accompanied by tables showing the original cost, annual up-keep, and other interesting facts and figures. From time to time the lecture was illustrated by a large number of lime-light views of the various parks and open spaces, specially photographed; which were recognised and heartily applauded. A number of photographs were also shown of Glasgow's latest acquisition, viz., Thornliebank Park, the munificent gift of Mr. A. CAMERON CORBETT, M.P., which however will not come into possession of the citizens for about two years. In conclusion, the lecturer said his friends accused him of having the "land-hunger"; but he thought, however true this might be, it was his duty to the community to be a "land-grabber in the first degree." During the lecture, which occupied nearly two hours, the audience closely followed the subject, and at the close accorded Mr. WHITTON a cordial vote of thanks.

HOME CORRESPONDENCE.

LEGUMINOUS PLANTS AS FERTILISERS OF THE SOIL.—I should be very much obliged to anyone who would inform me of his experience as to what extent (if any) he has found varieties of the Leguminous family enrich the soil. Pliny tells us that in his day (i.e., before A.D. 80), that it was the belief that the bean "fertilises the ground in which it has been sown as well as any manure." "It is universally agreed by all writers that there is nothing more beneficial than to turn-in a crop of Lupins before they have podded with either the plough or the fork, or else to cut them and bury them in heaps at the roots of trees and Vines." Again, "So far is it from standing in need of manure, that the Lupins will act upon it as well as the very best." "If cattle have eaten it off while in leaf, as a matter of necessity it should be ploughed in as soon as possible." "The Vetch, too, enriches the soil, and its cultivation entails no labour on the agriculturist." Of course, Pliny knew nothing of nitrification or symbiosis; but experience appears to have proved that it was not only an advantage to plough in the entire plant in lieu of manure, but that the plant actually enriched the soil by growing in it. How far is this latter advantage recognised to-day? *George Henslow.*

NEW POTATOS AT CHRISTMAS.—It may appear rather unseasonable to some gardeners, if not to a great many, to speak of being able to send to the dinner-table a dish of new Potatos on Christmas Day, which everyone knows would be a novelty certain of appreciation; but, considering the ease with which this can be done, it is a wonder that we have not heard more about it. As an instance of this, I dug some tubers of

Duke of York and Sutton's Ringleader on June 9, and put them straightway in air-tight boxes, buried them underground 2 feet deep, and there they will remain till wanted for use. We send them into the kitchen on special occasions, taking as many as required from the box and burying it again, for if left exposed to the air for a great length of time the Potatoes are not so good and the skins become "set." My employer is well pleased with them, as they form a dainty dish at a time of the year when choice things are scarce. C. Fogden, gr., West Broyle.

MAGNOLIA CAMPBELL.—In the obituary notice appearing in your last issue of that good gardener and most estimable man, the late William Osborne, for so many years in charge of the fine arboretum and pinetum at Fota Island, Queenstown, it is stated by the writer that this splendid shrub bloomed for the first time in Europe under his care. I think this is a mistake, as, unless I am greatly mistaken, this honour belonged undoubtedly to my friend the late William H. Crawford, of Lakelands, near Cork, who got one of the first plants of it imported into this country, and bloomed it several years before it flowered at Fota, though I never saw anything like the same abundance of flowers at Lakelands as were produced by the Fota tree in the year 1900. W. E. Gumbleton.

DICTAMNUS ALBUS.—Unlike your correspondent "M. B." (see p. 338), I find that the seeds of this plant germinate freely, but instead of sowing them as soon as ripe, I keep them till March, and then sow in a seed-pan which is placed in a cold pit. The seedlings are not disturbed till the following year, when they are transplanted to the open border. Only a portion of the seed of the white-flowered variety produces white flowers. In Nicholson's *Dictionary of Gardening* it is stated that the name is "derived from 'Diktamnus,' the old Greek name used by Hippocrates;" while Johnson's *Dictionary* says, "a name adopted from Virgil." Possibly "M. B." has not referred to these books, the first-named of which should be in the possession of every plant cultivator. The *Kew Hand-List* mentions three varieties in addition to purpureus. I do not understand why albus is given as the specific name; the fact of seed of the white variety sporting so freely to the purple form, while the latter comes true to colour, points to the purple as being the type. W. H. Divers.

ST. JOSEPH STRAWBERRY FOR POT-CULTURE.—Upon visiting the gardens of Sir Edwin Durning Lawrence, Bart., M.P., King's Ride, Ascot, I was particularly struck with the abundant supply of fine dessert fruit of this variety. In this instance the plants were in fine condition, and the fruits were of unusual size, colour, and good flavour. The plants thrown aside even, as having finished profitable fruiting, continued to set fruits in Peach-houses and cold vineries. Those who may not yet have given this autumnal-fruiting variety a trial would do well to pot up at this season a number of runners, which are made in fair quantity, into 60's, transferring them to 5 or 6-inch pots in May or June next. The date at which the plants are wanted in fruit can be regulated in great measure by the removal of or the retention of the flowers as the case may be. This variety has the peculiarity of continuing a long time in flower, and is unquestionably the most perpetual-flowering and freest setter among alpine varieties.

REVERSION IN ODONTOGLOSSUMS.—Assuming that a spotted or blotched crispum is the result of hybridity between a crispum and another species of *Odontoglossum*, and that when this plant is fertilised by the pollen of another such hybrid its progeny shows reversion, how is it that it does not revert to the other parent as well as to the *O. crispum*? We know that when certain species are hybridised together their progeny shows the form and markings of both parents, proofs of which we have in *O. excelens* (triumphans \times pescatorei), *Loochristyense* (crispum \times triumphans), &c.; and supposing that these hybrids were crossed with others having the same parents, and that this process was continued with their offspring, we should, after passing through the laws of reversion, be

able to produce plants which would prove to be pure species and show no signs of hybridity at all. Assuming, then, that we could do the same with blotched crispums, we ought to produce not only pure crispums but pure forms of the other species, which is supposed to be the other parent of the blotched crispum. Also that as reversion is a natural state of things, and continually going on, we ought by this time to have discovered a species which would show some signs of being the other parent; but it is difficult to imagine a flower having such characteristics as would, when hybridised with an *O. crispum*, produce progeny whose only difference is in the blotching of the segments, and without in any way altering the crest or shape of the petals. Gurney Wilson, Glenthorne, Haywards Heath.

THE BOOK OF THE PEACH.—In the last issue of the *Gardeners' Chronicle* (p. 338) the reviewer of *The Book of the Peach* makes an attempt to justify the remarks which he thought proper to make in his notice of the book in question in a previous number of the *Gardeners' Chronicle* (October 17, p. 270). The most erroneous of these remarks the reviewer has repeated in last week's issue of the *Gardeners' Chronicle*. He says:—"It will be observed that the distinction and the difference lie between the words *natural subsoil drainage* or *artificial subsoil drainage*," adding, "and as, on re-perusing the book, I cannot find any advice upon any artificial subsoil draining, I was justified in assuming the author had naturally-drained subsoil." Continuing, the reviewer says:—"On the other hand, there are some directions (p. 33) for draining the concrete borders above with gutter-bricks," which, he adds, "cannot be termed draining the subsoil." Here, as in the notice complained of (p. 270), the reviewer evinces a disposition to deal unfairly with *The Book of the Peach*. Please let the book speak for itself:—"Unless the subsoil (p. 31) consists of chalk or limestone, it will be advisable to bottom the borders or holes with from four to six inches of concrete or chalk well pounded, so as to prevent the roots of the trees from pushing down into a wet, poor, cold, uncongenial subsoil, and at the same time confine the roots in the prepared soil." Continuing the subject (p. 32), after referring to the dimensions of the border and the advantages resulting from trees growing in somewhat narrow, shallow borders, as compared with those obtained from trees growing in borders of greater depth and width, it says:—"The depths given above include four or five inches of brickbats or clinkers, broken somewhat fine on top for drainage, adding stones with a little gravel put on top to fill the chinks, would answer the purpose equally well. The drainage should be covered with turfs, grassy side down, to prevent the soil from getting into and choking the drainage. A gutter-brick embedded in and level with the concrete or chalk surface, covered by another placed upside down, and connected with a drain, as a means of carrying away any superfluous water that might otherwise accumulate at the roots of the trees at an undesirable time of year. The same precautionary measure should be observed in borders of 'lean-to' houses where deemed necessary. A border of the dimensions indicated above (10 to 12 feet wide, 2 feet 3 inches deep immediately inside the front wall, and sloping to a depth of 18 inches at the northern limits of the border inside a 'lean-to' house), well-filled with fibry roots, is preferable to a border of twice the depth and width given, and but sparsely furnished with roots, as experience teaches us such borders invariably are. What the cultivator should aim at in the initial and every stage of Peach-growing is to secure a network of roots in his Peach-borders, and then to feed them well by giving frequent surface-dressings of some approved artificial manure during the period the trees are swelling their crops, immediately before applying water. This very desirable state of things is sure to be attained by making the borders as advised above" (pp. 31, 32, and 33). At p. 34 occur the following remarks:—"The foregoing remarks on the making of Peach-borders only refer to cases where there is no choice of sites to erect Peach-houses, but land totally unfit for healthy and satisfactory fruit-tree growth—land where the subsoil is such as to necessitate provision for keeping the roots of the

trees in the prepared composts, and the placing of drainage on the bottom of concrete or pounded chalk base in order to prevent the soil becoming water-logged at any time." The reviewer (without mentioning the facts recorded above) says:—"This cannot be termed draining the subsoil." I agree with him. The term "draining the subsoil" is introduced by himself. It is simply and effectively draining the borders, which is advised at p. 13—"that the base of the border being made should be above the ascertained water-level, so as to prevent the possibility of the roots of the trees being submerged at any time." I wonder where the relevancy of the reviewer's remarks on the foregoing cultural details comes in? In reference to the chapter on Peach-growing on the open walls (p. 93), wherein it is advised to put 6 inches of brickbats or clinkers in the bottom of each hole, breaking these fairly fine for drainage prior to covering with turfs, grassy-side down, &c., the reviewer says, within brackets, "[We consider the latter (clinkers) most objectionable]". Will he kindly state for the benefit of horticulturists like myself in which way the clinkers so used are "most objectionable"? I have used and advised the use of clinkers as drainage, that is, to admit of any superabundance of water passing through the prepared or natural soil (where good enough for tree growth) and turf-covered drainage into the soil below. They are not used as plant food, but simply as drainage; and it does not matter in the least whether the roots of the trees come in contact with the clinkers or not. No evil results need be apprehended by their doing so. Should they find their way down to the clinker and not receive a cordial reception, all the better, as the cultivator has no wish for the roots to leave the soil prepared for them. The reviewer says that there "is nothing mentioned in my book about any artificial drain being in existence." I suppose he means under the border in which wall-trees are growing out of doors. If so, he is right in this one instance. I never knew any Peach-border out-of-doors at the foot of walls being provided with a pipe and rubble drain; neither do I see the slightest necessity for such where the cultural instructions given in *The Book of the Peach* are carried out as there advised. Trees growing in holes (prepared as described at p. 93) at the foot of walls outdoors emphatically require no "pipe and rubble drain." The foundation affords ample drainage for any water passing the prepared soil into the subsoil; and, moreover, the sloping surface of the borders carries a large quantity—much too large a quantity—of rain-water away from the prescribed root space of the individual trees. The reviewer says, "It is our practice, warranted by a long experience, to run pipe and rubble-drains through the subsoil beneath all borders"—does he mean borders in front of Peach-walls out-of-doors? The reviewer thinks that I ought to have accepted his remarks in the spirit in which they were meant, on the ground that "his criticisms were honest and unprejudiced." Assuming this to be the case, it by no means follows that his criticisms were just and practical. A perusal of *The Book of the Peach* will prove to the mind of any sound fruit-grower contributor to the *Gardeners' Chronicle* that they are the reverse. I trust that the usefulness and opportuneness of the foregoing remarks may be accepted as an excuse for the length of this letter, in addition to the fact of being called upon to defend certain aspersions on my latest modest work on fruit-culture. H. W. Ward, November 14. [Mr. Ward having now exercised his right of reply we must decline to insert any further communications on the subject. We have only to add that the reviewer, like Mr. Ward himself, is a most successful cultivator. Ed.]

THE NEW HORTICULTURAL HALL.—It is a curious indication of the lack of effort which pervades so many persons that at the Drill Hall one is constantly asked, "How is the new Hall getting on?" and yet there is the building within four minutes' walk, and hardly anyone takes the trouble to go and see it for themselves. I should like to see not only the respective Committees, but as many Fellows as possible, taking advantage of the Drill Hall meeting on Tuesday next, to walk to Vincent Square and see the progress made for them-

selves. If they do so they will see the walls of both front offices and Hall some 30 feet in height. They can, too, now fully estimate the area of the latter as compared with the Drill Hall; and also the nature of the front offices and their height, breadth, and aspect when completed. My own opinion is that all unbiassed persons who see the buildings — and it is folly now to cavil over their erection — will find that they present a really splendid appearance. The paper plans and elevations, so much criticised when issued, seem to have conveyed a most indifferent idea of the appearance the structure will present when complete. The entire erection so far is very massive and substantial; and when it is remembered that a large sum had to be expended in putting in deep solid foundations, I think many persons will be disposed to wonder whether the sum of £40,000 can pay for it. Having in view the onerous responsibilities in relation to the new Hall and offices which the Council, at the bidding of the Fellows, have accepted, it is discouraging to learn that a large sum is still needed to complete the amount required to pay for the buildings. It is to be hoped that not so much in big amounts, but in sums of £5 or £10, the thousands of Fellows who have not yet subscribed will do so, and thus complete the needful £40,000. It is not merely a show Hall that is being built; it is to be, all will trust, a Home for National Horticulture for all time. A. D. [A great effort should be made to secure the necessary funds, particularly among those who derive the greatest benefit from the shows. Ed.]

SPORTIVENESS IN VINES—It was said on p. 305, that several instances of Vine sports had been seen at Byfleet, Surrey. Whilst admitting that a black bunch of Grapes growing on Muscat of Alexandria Vine, or a yellow or white bunch produced on black Alicante Vine, would be sports indeed, if these so-called sports at Byfleet only differ in size or shape of berry or bunch, then I say these are not sports, and should not be called so. There are far too many "so-called sports" put on the market now, and to all who buy such I say, "Fools and their money are soon parted." Many of these so-called sports are put before Fruit Committees, given Awards of Merit, when there is only the vendor's experience to recommend them, and sent out as first-class new fruits. I could give many instances of gardeners buying Vines sent out with new names, which after being grown were new only in name. Difference in the shape and size of berries is often seen, particularly in Muscats, Alicantes, and Lady Downe's Seedling. I have a Vine of the variety last-named which produces stout, stocky bunches, with round, very large berries, in all respects different from the type, and which has many times been taken for a new Grape. Then, again, I ask what is the difference between Gros Maroc and Cooper's Black Grapes? Grapes differ much after they have been grafted. Muscat Grapes, if grafted on Black Hamburg Vines, will ripen much earlier than if grown on their own roots, yet will not keep so late as the Muscats grown on their own roots. Alnwick Seedling grafted on Black Hamburg sets its fruit quite equal to the Hamburg, but does not keep so well, and the berries are more round in shape than when on its own roots. Muscat Hamburg, grafted on Syrian or Gros Maroc, is much stronger in growth, and produces such fine Grapes that one would not believe it to be the same Grape. The late Mr. Barron did not believe in Vines "sporting," neither do I; after thirty years' experience I have never seen any so-called sports change their jackets. W. C. Leach gr., Albury Park, Guildford. [If a Vine or part of a Vine constantly produces fruits that differ in form and size from those of the type under similar cultivation and without grafting, this is proof in itself that the variation is a "sport"; and if the variety is not a seedling, then it is a vegetative sport. A variation may occur without changing the colour of the skin of the fruit, which is one of the most constant characters in Grapes. If a bunch of Grapes similar to that of Muscat of Alexandria, for instance, was produced by a Vine of the variety Foster's Seedling, it would be a very decided sport, although the

white skin had not become black. But all sports are not valuable commercially or culturally, and whether the variations that were observed at Byfleet may prove to be useful sports was, on p. 305, left an open question for future experience to decide. Ed.]

SPECIAL CULTURE OF TREE-CARNATIONS.—Mr. A. F. Dutton, on p. 326, takes exception to the statement that his Carnations, as exhibited, are "the product of special culture." Now, Mr. Dutton's Carnations are either the product of a special culture, or they are produced in the only other, i.e., natural, way. I have seen Mr. Dutton's Carnations in the market and at the Temple, and Drill Hall exhibitions, and without the least hesitation should agree with the reviewer of the book on *Carnation Growing*, when, at p. 291 of the *Gardeners' Chronicle*, it is stated "they are the products of special culture quite beyond the means of the private gardener." Not only must Mr. Dutton stop his plants with systematic precision, he also must be equally rigid and severe in his system of disbudding. Here, then, is ample proof of a "special culture," for every stem shown had been divested of all save the top or crown bud. If we take the variety Mrs. T. W. Lawson, for instance, a good stem will carry half-a-dozen buds, the half of which may be of quite good size. In proportionate degree this is true of other kinds; and while Mr. Dutton by these special means of stopping and disbudding obtains plants with from four to eight long stems, other growers who adopt a more natural way obtain a couple of dozen blooms on plants of this year's propagation and growth. How and why all this is "quite beyond the means of the private gardener," Mr. Dutton fully explains by his "thousands of young plants." Mr. Dutton, as a Carnation specialist, overlooks the very simple fact that it is extremely rare for a private gardener to be able to devote even a 30-feet long house to these tree Carnations, and seeing the gardener is often expected from such a house to produce a more or less constant supply, these solitary-flowered stems would stand him in poor stead. There is also a further side to the question, and while these long-stemmed Carnations are very fine and beautiful to look upon, they are notwithstanding somewhat misleading to the uninitiated. All the world by this time knows that the huge flowers of Chrysanthemums seen at every exhibition are the product of special culture and rigid disbudding, but the admirers of the Carnation are as yet not educated up to the same point as it concerns the latter flower. Many seeing these fine Carnations not only purchase them, but expect the gardener, with his mixed array of plants and his multitudinous duties, to produce the same results as the Carnation specialist, with his mind and his time wholly concentrated on his thousands of plants. There is nothing more simple than growing "thousands" of a plant, and the private gardener would find it just as easy as the specialist, could he but command houses and men to carry on the needful work. This is where it is "beyond his means." These long-stemmed Carnations are coming to us chiefly if not entirely from America, the varieties being noted also for a greater vigour of constitution than that found usually in those of British or French origin. No one disputes their superiority or their greater suitability for vase-decoration; and when gardeners and employers alike realise that by a process of quick growth and the rigid enforcement of details some four or six of these tall-stemmed flowers are obtainable with less trouble than it now takes to secure large exhibition blooms of Chrysanthemums, special houses and special men will be set up to grow this deservedly popular flower. Some of the best-suited kinds for this method of cultivation are Mrs. T. W. Lawson, Royalty, America, Daybreak, &c. Tree-Carnations are quite popular now in Britain; it is a moot-point, however, whether this popularity is to merge into a craze, as in America. E. H. Jenkins.

CLUBBING IN BRASSICAS.—I have been very interested in notes by Mr. Massee and other correspondents on clubbing in Brassicas. I was seriously troubled with this until three years ago, when I tried Véltha, which has proved a great success. It is important that whatever

remedy is tried the seed-bed should not be neglected. I think perhaps that neglecting the seed-bed may have been the reason why applications of gas-lime have not always been successful. I apply Véltha before or at the time of sowing the seeds, and when the plants are put in their permanent quarters I sprinkle a little round each plant. V.

NOTES ON SOME OF THE NEWER VARIETIES OF POTATOS.—The merits and demerits of some of the newer varieties of Potatoes have been freely discussed of late, and whilst not desiring to enter into any controversy I should like to give a few particulars as to how some of them have done with me. Amongst others I purchased last spring were Northern Star, Webb's Table King, Webb's New Guardian, and Sutton's Discovery, which, along with nearly fifty other varieties, were planted towards the end of April on a piece of well-prepared ground in drills 1 yard apart and 15 inches from set to set. No artificial manure of any kind was used, but a good layer of well-rotted farmyard-manure was placed in each trench; over this a good coating of leaf-mould and wood-ashes, and the sets planted thereon. From 1 lb. of Northern Star we had thirty sets or single eyes. The produce of these was lifted on October 28, and the result was 110 lb. of tubers, quite two-thirds of which are of marketable size; about a score of the tubers were slightly diseased, but the disease was only just skin-deep. It is only fair to say that I lifted nearly half the roots of Northern Star to get a dish for the big show at Chiswick, but finding them rather too small and growing very fast, I planted each root back again. This I found at lifting-time had made a very great difference to the weight of produce; the roots that had been lifted at the end of August [? September] not producing anything like the weight of tubers produced by those which had not been disturbed. The flavour of Northern Star is very good, but the tuber lacks that floury character one looks for in a first-class Potato. It is certainly a wonderful cropper. Sutton's Discovery, from about the same quantity of sets, gave a little over 50 lb. of tubers, with very few small ones, and no signs of disease. Its table quality is very similar to that of Northern Star. The drawback to this latter variety is its rather deep-set eyes. Table King gave about the same weight of produce as Discovery, and is in all respects very similar to that variety; no disease, and very few small tubers. New Guardian is a very productive Kidney variety, of good table quality, free from disease, and fine for exhibition. The Sirdar is another strong-growing, productive kind, of fairly good table quality, freer from disease, but altogether too rough and too deep in the eye for an exhibition Potato. Daniel's Distinction, of which I had a few tubers sent me for trial, produced some wonderfully fine tubers, but a great number of them were badly diseased, although it was grown on a border a considerable distance from any other Potatoes. I have not tested its table qualities. The finest early Kidney of recent introduction is Sir John Llewellyn. It is dwarf in growth, a splendid cropper, of good table quality, as early as any variety that I have grown, and a grand exhibition kind. Disease in this district has been very rife, and most of the above-named varieties were grown, as already stated, side by side with many badly-diseased ones, which is high testimony to their disease-resisting properties. B. Ashton, Lathom House Gardens, Ormskirk.

PEAR DOYENNÉ DU COMICE.—Your correspondent, on p. 338 of the *Gardeners' Chronicle*, does well to draw attention to this delicious Pear. It is an old inmate of our garden, and is still regarded as one of the best. I have grown the variety on south, west, and east, and tried it on north-west walls, with a fair amount of success, but have obtained the best-flavoured fruits from trees grown on south and west walls. It is apt to be regarded as too large when grown to its full size, and finds most favour when the fruits are not severely thinned, although the largest and best-coloured fruits are always the finest in flavour. W. A. Cook, gr., Shirley Park.

GOURDS AT THE DRILL HALL.—Amongst the many excellent groups of Chrysanthemum flowers shown at the last meeting of the Royal Horticul-

tural Society, that staged by Mr. F. W. Smith, gr., The Hollies, Weybridge, was conspicuous for the unusual sort of material used to "set off" the flowers, Gourds, Fungi, Berries, and autumnal foliage being freely employed with pleasing effects. After such a summer as the last it was somewhat of a surprise to see Gourds of such high colour. Weybridge must have been favoured with more than the average amount of sunshine. Mr. Smith staged as many as fifty-six distinct species and varieties of Gourds, amongst them being nearly all the known varieties of *Cucurbita Pepo*, *C. P. verrucosa*, and *C. maxima*, as well as the species *C. ficifolia* and *C. perennis*. By careful selection and crossing Mr. Smith has succeeded in producing a strain of Gourds useful for decoration, being varied in form and colour and not too large. John W. Odell, gr., The Grove, Stanmore.

MELTON CONSTABLE GRAPE.—I note in last week's *Gardeners' Chronicle* report of the Royal Horticultural Society's Fruit Committee meeting of Tuesday 10th inst., that the Committee wish to have the Vine for trial at Chiswick, to be grown alongside Gros Colmar. I think it only right to point out that I have received no such notification from the Secretary, his remarks being as follows:—"The Fruit Committee would like to see the Grape Melton Constable again next year with Gros Colmar, and with foliage of both varieties." Without wishing to dictate in the least, I would respectfully point out that, on the suggestion of Mr. Wright and other specialists in Grapes at the Chiswick Show, Mr. Shingler, at my request, hurried the Grape on in order that it should be ready for November 10, the date suggested for its being submitted to the Committee for certificate. I have Mr. Shingler's authority for saying that it is the latest of all Grapes, and will hang until the end of February without shrivelling. Had it been treated in the ordinary way the berries would not have been ripe until Christmas. As I have advertised it as being a very late Grape, I feel it is due to me that you should give me the opportunity of making this explanation. Jabez Ambrose.

LINARIA CYMBALARIA ALBA.—It may interest your readers to know that this plant is growing freely and plentifully on an old wall near Carnforth, Lancashire; and whilst the ordinary form is on almost all old walls in this district, on this particular bit of wall only the white form is found. I have also in my garden a plant of the same found near Preston, Lancs.; and I have heard of it at Yealand near here, but have not yet located it myself. T. O. Walker.

UNTIMELY FLOWERS.—I send for your inspection (1) a bunch of Primroses—nothing very unusual, of course; but it is rather early to gather so many, and there are plenty more. (2) A few sprays of Apple Irish Peach. This is not an instance of the not uncommon occurrence of a tree flowering a second time in the autumn; but this tree was apparently killed by the sharp frost that did so much damage in April, and, after remaining until now in a state of suspended animation, it is now putting forth its usual spring growth of leaves and flowers—I think a curious circumstance. (3) A spike of *Polyanthus Narcissus*, I think Mont Cenis. This seems to me most extraordinary, for it is not a very early variety, and is not from a bulb forced last year. Several others are very forward in their growth, as are all bulbs. R. W. R., Usk, Monmouthshire, Nov. 16. [The Violets shall be examined. See "Notices to Correspondents" in next issue. Ed.]

SPORTING CHRYSANTHEMUMS.—About two and a half years ago I received a batch of rooted cuttings of Chrysanthemums of various colours from North Britain. These were planted out in my garden at Flixton, and produced the usual mauve, yellow and white heads of flowers. Cuttings (suckers) were taken from these and again planted out in the open at the beginning of this season. Out of this batch one of the plants with mauve flowers attracted my attention, for as the mauve-coloured flowers began to lose their attractiveness, another set of flower-heads, borne on a branch taking its origin at a point about 2 inches from the base of the main shoot, commenced to open. These were of a bright sulphur-yellow colour. It is well known that

these highly and long-cultivated plants not uncommonly produce sports; but I am not aware of any plant having previously produced flowers, distinct in colouring, of the colours named above. I should therefore be pleased to hear if any parallel instance has been known to occur. Harold Murray.

DISEASE-RESISTING POTATOS.—Being in the neighbourhood of Bishop's Down, Tunbridge Wells, a week ago, I called upon Mr. Coleman, tenant of the Swiss Cottage dairy farm and a market gardener. The name of Coleman will be familiar to many of the older readers of the *Gardeners' Chronicle* as the exhibitor of fine collections of plants at Manchester shows in years gone by, Mr. Coleman having been a Manley Hall man when Sam Mendel, Esq., was keeping everything in such a high state of cultivation at that place. For some years Mr. Coleman has been trying to raise a Potato having two special characteristics, viz., a constitution strong enough to resist disease under any conditions of weather, and, secondly, having great solidity of flesh, so as to ensure long keeping without starting into growth until late in the season. Four years ago Mr. Coleman crossed Windsor Castle Potato with Up-to-Date, and succeeded in raising a Potato that I am sure will take the first place as a disease-resisting variety, and will prove to be one of the best, if not actually the best, Potato in cultivation for late spring use. Mr. Coleman informed me no diseased tubers had ever been found among the tubers of this variety. This year he has grown nearly half an acre with a rainfall this year of 32 inches. The weather test this season has been a severe one, and any Potato which has escaped disease may be looked upon as having a constitution strong enough to resist it. The day that I visited the Swiss Cottage farm, Mr. Coleman's men were finishing the lifting of this crop. I made a careful examination of the ground and crop, but did not find a single tuber that was diseased. The raiser proposes to plant all of his available ground next spring, and in 1905 to put it in commerce. It is a good cropper, of fine quality, the haulm dwarf and of a strong branching habit; tubers of middle size, with very shallow eyes. When sent out I understand it will be under the name of Queen Alexandra. W. F. Bowman. [The variety should be sent for trial to the Royal Horticultural Society's garden. Ed.]

Obituary.

ABRAHAM NEWELL.—The death of this well-known Surrey gardener took place at his residence, Fairlawn Cottage, Victoria Road, Wimbledon Common, on the 11th inst., at the age of 52 years. Mr. Newell had been in weak health for some time, and his illness eventually took a serious form and resulted in his death. He leaves a widow and one son.

A native of Norfolk, he, in early life, showed a liking for gardening, and on one occasion he exhibited, at one of the exhibitions of the Stow Horticultural Society, a model garden. This attracted the attention of Lady Hare, and led to Newell going into the gardens of Stow Hall, under Mr. Orr. Here he remained for a number of years, rising to the position of foreman, when he came to Wimbledon as gardener to the late Sir Edwin Saunders, of Fairlawn. Sir Edwin had some years previously bought a piece of waste ground, on which he erected a mansion and laid out a garden and grounds of a few acres from plans furnished by Marnock, and there Mr. Newell remained until his death. He grew Chrysanthemums largely and well, Begonias, Chinese Primulas, Zonal Pelargoniums, and many other subjects at all seasons of the year, furnishing the conservatory with flowering plants in considerable variety. Berried plants were among his favourite plants. He was a frequent exhibitor at the Wimbledon Horticultural Society's shows, as well as a hard-working member of its Committee, and he exhibited occasionally at Richmond, Putney, &c., the Royal Horticultural and Royal Botanic Societies. He had been for many years an active member of the Committee of the National Chrysanthemum Society, and showed pretty tables of flowering and berried plants at its late exhibition. R. D.

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

NOVEMBER 10.—Present: Dr. M. T. Masters, F.R.S., in the chair; Messrs. Odell, Veitch, Saunders, Worsdell, Massee, Chittenden, Bowles, Holmes, and Baker; Dr. M. C. Cooke, Professor Boulger; Revs. W. Wilks, and G. Henslow, Hon. Sec.

Scientific Investigations at Wisley.—In reply to Dr. Masters' request for suggestions, Mr. F. J. BAKER wrote to say that in his opinion the botanical director should have a sound practical knowledge of general science (including biology, chemistry, and physics), and a sufficiently good knowledge of gardening to enable him to apply facts to such intricate problems as arise in connection with horticulture. He should be able to distinguish between the requirements of artistic, scientific, and economic gardening. Mr. BAKER also made suggestions of a pecuniary nature. Dr. RENDLE in his communication discusses the question of expense and necessary appliances for the Director, e.g., microscope, apparatus, &c.

Potatoes and Millipedes.—Mr. CHITTENDEN showed Potatoes badly attacked by these creatures. It was thought that an excess of manure and a deficiency of lime favoured their presence.

Crocus new to Cultivation.—Mr. BOWLES exhibited some growing plants of interesting species as follows:—*C. Cambessedesii*, Gay, introduced to cultivation by Mr. G. Maw, but subsequently lost. It is now re-introduced from Port Mahon in Minorca. It only occurs in Majorca and Minorca. *C. caspius*, Fischer and Meyer. This species is new to cultivation. It was collected in Russian Talych at an elevation of 1,000 feet. *C. c. var. liliaceus* has flowers of a pale rosy-lilac colour; the throat, as of the type, is of a bright yellow colour. A unanimous vote of thanks, proposed by Mr. Veitch and seconded by Mr. Holmes, was given to Mr. Bowles, with a Botanical Certificate for the new species exhibited.

Pears malformed.—Some curious specimens were received from Mr. GOODACRE, Elvaston. Prof. HENSLOW examined them and reported as follows:—"The stalk of the fruit had made a preliminary effort to form a Pear, but only on one side of it, thereby producing a curved, somewhat pointed, wen-like excrescence, due to the hypertrophy of the cortical tissues. This caused a curvature in the stalk; from out of this depression the stalk continues its growth, finally terminating in an elongated Pear. The core or carpels, when present, for they were in some instances suppressed, were situated very close to the terminal depression which contained the calyx and other remnants of the flower."

Fraxinella capules.—Dr. MASTERS showed specimens illustrating the peculiar way the endocarp separates from the outer wall of each follicle. Then, by twisting, it jerks the seeds out. It was again remarked that the seeds must not be allowed to dry lest they fail to germinate. [See note on p. 356, "*Dictamnus albus*." Ed.]

DUTCH HORTICULTURAL AND BOTANICAL.

ON the occasion of the meeting of the Floral Committee on October 28, 1903, the Committee awarded First-class Certificates to Chrysanthemum Lady Conyers and Chrysanthemum Godfrey's King, as new varieties from Mr. G. J. BIER, Nieuwerkerk, a/o Yssel. To *Oncidium Mantini*, as a rare plant, from Mr. C. J. KIKKERT, Haarlem. To *Cactus Dahlia Mabel Neede*, and to *Cactus Dahlia Mary Farnworth*, both as new imported plants, from Messrs. E. H. KRELAGE & SON, Haarlem.

Certificates of Merit were granted to *Cactus Dahlia* Gunther, Monsieur L. Tessier, and Princess, as new imported plants, from Messrs. E. H. KRELAGE & SON, Haarlem. To *Chrysanthemum nipponicum*, as a new imported plant, from Mr. W. VAN VEEN, Leyden. To *Actaea japonica*, as a new imported plant, from Mr. W. V. VEEN and Messrs. WEZELENBURG & HARSSEN, Leyden.

And a Botanical Certificate was granted to *Odontoglossum Hennessii*, as a rare plant, from Mr. C. J. KIKKERT, Haarlem.

CROYDON MUTUAL IMPROVEMENT.

NOVEMBER 6.—On the foregoing date the subject before the meeting being that of "Fruit Bottling," the members brought their lady friends to the meeting. The various details in the process of preserving fruit in bottles were described by the lecturer for the evening, Mr. R. B. Leech, of Wood Hall Gardens, Dulwich, and the audience were interested and instructed.

TORQUAY DISTRICT GARDENERS.

OCTOBER 29.—This body of gardeners held their annual Chrysanthemum Show on the above date, in the large hall of the Bath Saloons. The Association being, fortunately, in a better financial position than was the case last year, when circumstances caused the awards to be honorary instead of monetary, were able to offer good prizes in all the classes, with the result that the exhibits presented a very attractive display. The Committee was also in luck in the matter of weather, a bright, sunny afternoon tempting such crowds to the hall that the Association should carry forward a good balance.

The exhibits included cut blooms of Japanese varieties in classes for twenty-four and twelve blooms, Japanese incurved to the number of twelve, épergnes of cut blooms of Chrysanthemums, vases of Chrysanthemums, table decoration, groups of Chrysanthemums, groups of miscellaneous plants, trained Chrysanthemums, Ferns and Begonias. Besides these there were exhibits of vegetables in collections, hardy fruits, and black and white Grapes.

Messrs. R. VEITCH & SON, Exeter, exhibited an interesting stand of hardy and greenhouse flowering plants and shrubs, alpines, and variegated Conifers.

The DEVON ROSEY COMPANY showed a good collection of Chrysanthemums, Tree Carnations, Heaths, Acacias, Begonias, Palms, Ferns, Aralias, and Pandanus; while their Fruit Farm displayed an excellent assortment of Apples, Pears, Tomatoes, Mushrooms, Cucumbers, Figs, and Grapes; together with punnets of Royal Sovereign Strawberry and ripe Raspberries from the open, showing the vagaries of the present season. The stand was brightened by countless Violets and cut blooms of Iris stylosa.

Mr. H. B. SMALE, Torquay, showed Chrysanthemums, Cannas, Bouvardias, Pelargoniums, Cinerarias, and other flowering and foliage plants.

Mr. W. H. ALWARD's stand was bright with Salvia splendens, Begonias, Primulas, and Cytisus racemosus; and Mr. J. HEATH, Kingskerswell, staged a collection of Violets.

GHEENT CHAMBRE SYNDICALE.

NOVEMBER 2.—At the meeting on the foregoing date the following awards were made:—Certificates of Merit for fifty cut blooms of Chrysanthemum (*par acclamation et avec félicitations du Jury*); for Chrysanthemum Jeannette Lens, Chrysanthemums Queen Alexandra, Mdle. Marguerite Desgnoles, Charles Schwartz (*par acclamation*), Marquise Chanaillies (*par acclamation*), Lord Ludlow (*par acclamation*), Madame Em. Fierens (*par acclamation*), and Master C. Seymour (*à l'unanimité*)—these being cut specimens and all from M. E. FIERENS. A similar distinction was accorded for Salvia alba, from M. ALPH. GALLEY; and for Araucaria gracilis, from M. J. P. HARTMANN. The latter exhibitor also secured a Certificate for Cultivation for Araucaria species, and M. EM. FIERENS an Honourable Mention for a cut flower of Chrysanthemum Madame Paul Aubry.

In the second section the following Certificates of Merit were allotted: for Lælia-Cattleya Baron C. Goffine; (hyb. 1896 L. elegans Turneri × C. aurea), from M. J. DE BIEVRE, of the Royal Gardens, Laeken; Cattleya Hardyana var., from M. TH. PAUWELS; a collection of Cattleya labiata, from the Marquis DE WYVRIIN (*par acclamation et avec félicitations du Jury*); for C. labiata var., from the same exhibitor, who was also successful with C. Perrioi alba var. M. Em. Fierens (*par acclamation et par rapport*); C. labiata alba Madame L. de Hemptinne (*à l'unanimité*); C. labiata alba Princesse Clémence (*à l'unanimité et par rapport*); C. labiata alba Princess of Wales (*à l'unanimité*); C. labiata alba Miss Kate Brazier (*par acclamation et avec félicitations du Jury*); C. labiata alba Marie Henriette de Wavrin (*par acclamation et par rapport*); Lælia præstans Queen Alexandra (*par acclamation et par rapport*), and with L. Perrini var. The following plants received similar awards: Cattleya labiata carminea, C. labiata radiata (*à l'unanimité*), C. labiata Orion—these from Messrs. SANDER & SON, of Bruges; Cymbidium (hyb. Mastersi × giganteum, seedling 1899), from the Comte J. DE HEMPTINNE; a collection of Cattleya labiata, from M. M. VERDONCLE; Sophro-Cattleya eximia (C. Bowringiana × Sophronitis grandiflora), from M. A. PEETERS, of Brussels (*à l'unanimité*); Cattleya labiata alba (*par acclamation et avec félicitations du Jury*); C. labiata Cooksoniae (*par acclamation et avec félicitations du Jury*); C. aurea superba (*à l'unanimité*)—all these also from M. A. PEETERS; and Cattleya Hardyana alba var. Madame L. de Hemptinne, also from the same exhibitor. Honourable Mention was awarded for Cypripedium seedling Charlesworthi × Moensii, from M. MAES-BRAECKMAN; and a Mention for Flowering for Cattleya labiata, from M. TH. PAUWELS.

SOUTHAMPTON.

NOVEMBER 3.—The show of the Chrysanthemum Society of this town was held in the Victoria Hall on the above date. As a show of the Chrysanthemum it was in many particulars much in advance of its predecessors of late years, and the public were present in gratifying numbers.

The entries of cut flowers were numerous and of great merit. The leading competition was for twelve

triplets of Japanese varieties set up in vases, for which the Victoria Memorial Challenge Trophy, together with a money prize of £7, were offered as 1st prize. The competitors numbered five, the stands making a fine display. For the third time in succession Mr. G. Hall, gr. to the Dowager Lady ASHBURTON, Melchet Court, Romsey, took the leading prize with a stand in which of especial merit were the varieties Madame P. Radaelli, Bessie Godfrey, W. R. Church, F. S. Vallis, Mrs. G. Mileham, and Calva's Sun. Mr. Dawes, gr. to Mrs. OGILVIE, Hambledon, Cosham, was 2nd; Mr. Hunt, gr. to PANTIA RALLI, Esq., Ashstead Park, Epsom, 3rd.

White-flowered varieties of Japanese were well staged in the class set apart for three blooms in two varieties. Mr. B. HENLEY, Woolston, was the winner with Gustave Henry and Mutual Friend; and Mr. DAWES was 2nd.

The best eighteen Japanese blooms, not more than three of any one variety being shown, were from Mr. Pearce, gr. to Mrs. TRAGETT, Aubridge Danes, Romsey; 2nd, Mr. A. J. Marsh, gr. to M. HODGSON, Esq., Thorton House, Kingsworthy, Winchester.

Mr. J. LOVE, Park Road, Cowes, Isle of Wight, was the successful exhibitor in the leading class for amateurs.

Single-flowered varieties were well staged by Mr. ELLWOOD in the class for two vases having the flowers arranged for fine effect.

A class was set apart for Japanese incurved flowers, and Mr. G. HALL was 1st with blooms of much finer quality than those usually set up in this section. The blooms of Mrs. Weekes and T. Carrington were conspicuous for fine form and finish.

Plants were shown fairly well, and the finer group came from Mr. C. Hosey, gr. to J. D. ESTEVE, Esq., Elmfield, Southampton, whose plants were dwarf and blooms good; Mr. HOSEY had also the finest "decorative" plants, these being dwarf and excellently flowered.

Mr. DYMOTT was 1st with plants trained in bush form—most desirable plants. Mr. WILLS had the nicest-arranged group of miscellaneous plants; and Miss WILLS, Anglesea Place, Southampton, was 1st for ball and bridal bouquets.

Fruit was good for the season; Mr. W. MITCHELL, gr. to J. WILLS FLEMING, Esq., Chilworth Manor, Romsey, was 1st for three bunches of Grapes, distinct varieties, with neat examples of Mrs. Pince, Muscat of Alexandria, and Black Alicante.

Vegetables were, as they are always here, a strong feature. Mr. Best, gr. to F. D. LEYLAND, Esq., The Vyne, Basingstoke, was 1st for eight kinds; and Mr. ELLWOOD for six. The competition in this section was keen, and the productions very fine.

PLYMOUTH CHRYSANTHEMUM.

NOVEMBER 3.—The West of England Chrysanthemum Society's annual exhibition was opened on the above date in the Guildhall, Plymouth. Prizes were offered on the usual liberal scale, and a fine and attractive show was the result, though the entries, as was to be expected after the past disastrous season, did not quite reach the record established in 1902. Cut blooms were very good considering the damping-off occasioned by the continuous rainfall. Mr. F. S. VALLIS's 1st prize stand in the big class being of high merit, though scarcely attaining the faultless perfection reached by his stand that carried off the premier honours of last year.

Forty-eight Japanese Blooms.—1st prize Mr. F. S. VALLIS. In this stand the following blooms were superb, Mrs. J. Lewis, W. R. Church, Brightness, Bessie Godfrey, F. S. Vallis, Madame Herrewewe, Sensation, and Elsie Fulton. There was a close contest for 2nd prize, the judges being obliged to point the individual blooms twice over before arriving at a decision. Eventually the prize was awarded to Mr. G. W. DRAKE, Cardiff, for a stand of very fresh but not particularly large blooms, of which Mildred Ware, Making Hero, and Mrs. G. Mileham were especially good.

Twenty-four Japanese Blooms.—1st prize, Mr. F. S. VALLIS, in whose stand Mrs. F. W. Vallis, Bessie Godfrey, and Sensation were excellent; 2nd prize, Mr. J. R. GULSON.

Two Japanese Blooms.—1st prize, Mr. G. FOSTER, whose Madame P. Radaelli, Wonderful, and General Hutton were especially noteworthy; 2nd prize, Mr. J. R. GULSON.

Twelve Classes for Cut Blooms were allotted to residents within 15 miles of Plymouth, the 1st prize in the premier class, for twenty-four Japanese, being won by Mr. T. MARTIN with an excellent stand that would have done well in the open competition.

For a group of Chrysanthemums, 1st prize was won by Mrs. COTRELL DORMER with plants bearing large blooms and having good foliage; 2nd prize, Dr. ALDOUS.

Messrs. ROBERT VEITCH & SON, Exeter, and Mr. W. J. GODFREY, Exmouth, had on their stands collections of cut Chrysanthemum blooms in variety. Miscellaneous plants added much to the attractions of the hall, some of the groups being very tastefully arranged. Orchids, Begonias, Pelargoniums, and other flowering plants were also well shown; and fruit and vegetables made a creditable display.

DEVIZES CHRYSANTHEMUM SHOW.

NOVEMBER 3.—This show is held in connection with a bazaar in aid of the funds of the Devizes Benevolent Society. One-half of the Corn Exchange is filled with Chrysanthemums, the other half with gaily-decorated stalls. The event is always a highly popular one in the town. The Chrysanthemum show was admirably arranged by Mr. W. KING, of the Castle Gardens.

The best circular group of Chrysanthemums arranged with foliated plants came from Mr. C. E. COLSTON, M.P., Roundway Park (H. Clack, gr.), there being both good flowers and tasteful arrangement. Miss NIVEN, Devizes, came 2nd.

In the cut bloom classes the leading class was for twenty-four Japanese and twenty-four Incurved, the 1st prize falling to the lot of Mr. J. B. HANKEY, Fetcham Park, Leatherhead (gr., W. Higgs). Very fine blooms were shown; the Incurved blooms were well finished for the season, and the Japanese were very fine.

There was an excellent competition with twenty-four Japanese. Mr. F. S. VALLIS, Bromham, Chippenham, was 1st with some very fine flowers, Edwin Molyneux being very fine indeed; also Sensation, Brightness, a highly-promising new variety; the same may be said of Valerie Greenham and others. Mrs. HAYWOOD, Woodhatch, Reigate (gr., C. J. Salter), was 2nd; he had W. R. Church in its best character.

With twelve blooms of Japanese incurved, H.H. Prince HATZFELT, Dracott, Chippenham (gr., F. Bible), was 1st, showing some good representative blooms; and Mr. F. S. VALLIS was 2nd.

With twelve blooms of Japanese, six white and six yellow, Mr. H. WRIGHT, Beckett Gardens, Shrivernham, was 1st; he had six each of F. S. Vallis and Miss A. Byron; Mr. VALLIS, who came 2nd, had three blooms each of four varieties—yellow, Bessie Godfrey and F. S. Vallis; white, Mrs. J. Lewis and Madame Herrewewe.

The best twelve Japanese from growers in Wilts came from Mr. H. CLACK.

There were some pretty épergnes of Chrysanthemums. One very popular feature was the exhibits of baskets of autumn foliage and berries, and from the number and bright character of the foliage employed, there appears to be no lack of it this season. Miss VALLIS took the 1st prize in a very keen competition.

BINFIELD & DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT ASSOCIATION.

THE above Society made a very successful start this session with an admirable paper from Mr. SWANSBOROUGH, of Warfield Hall Gardens, on "Winter Decorative Plants for the Greenhouse and Conservatory."

The paper was listened to with great interest, and a good discussion followed on the cultivation of Poinsettias, Primulas, Cyclamens, and Chrysanthemums. A fortnight later Miss COOPER, of Binfeld, gave some experiences of her life in Brazil, in a paper entitled "Hedgerows and Gardens of Brazil." The third paper of the session was given on November 3, by Mr. BAZZLEY, of the Nurseries, Teyford, on "Orchids."

CARDIFF CHRYSANTHEMUM.

NOVEMBER 4, 5.—The sixteenth autumn exhibition of this Society took place in the Park Hall, and was a distinct improvement upon any show previously held. The offering of increased prizes stimulated cultivators to try and retain the leading awards in the neighbourhood, and this they succeeded in doing.

The principal class for cut blooms was for eight Japanese varieties, three blooms of each being staged in vases with Chrysanthemum foliage. Five competed for the handsome Challenge Cup and money prize. The premier award went to Mr. G. W. DRAKE, at Cathays Terrace, Cardiff, for remarkably well-grown blooms of the following varieties—Mrs. Mileham, Duchess of Sutherland, Madame Paolo Radaelli, Madame Herrewewe, W. R. Church, Mrs. Lewis, Mrs. Barkley, and Charles Davis. Mr. J. Duff, gr. to Mrs. WILLIAMS, Newport, was 2nd; Mr. G. WILLIAMS, Manor House Nurseries, Cardiff, 3rd.

For twelve Japanese blooms distinct, Mr. DRAKE again secured the leading award with handsome blooms of F. W. Vallis, Mrs. Mileham, George Lawrence, C. J. Salter, W. R. Church, Mrs. Lewis, and Bessie Godfrey, as the most noteworthy. Mr. H. Townsend, gr. to H. PITT, Esq., Abergavenny, was 2nd.

Incurved blooms were not shown numerous, but their quality was good. For twenty-four blooms in not fewer than twelve varieties there were two competitors. Mr. DRAKE won easily with high-class blooms, and Mr. TOWNSEND followed.

The classes set apart for amateurs and gentlemen's gardeners were a strong feature. For twenty-four Japanese blooms, for which the "Comtis" Challenge Cup was offered as 1st prize with a cash prize also, there was keen competition. Mr. E. A. PARSONS, gr. to Mrs. J. D. GUNN, Cardiff, won with capital representative blooms of W. R. Church, Madame Paolo Radaelli, Mrs. Lewis, F. S. Vallis, Bessie Godfrey, and Miss Mildred Ware; Mr. John Dunn, gr. to Mrs. WILLIAMS, Bryn-Glas, Newport, 2nd.

Seven entered the lists for twelve Japanese blooms. Mr. A. F. HILL, Cardiff, won with grand examples of *F. S. Vallis* (premier bloom of the show), Mrs. Mileham, M. Louis Rémy, &c.; Mr. EDWARDS, Severn Road, Cardiff, 2nd.

Mr. E. A. PARSONS won the premier award for twelve incurveds.

For six Japanese blooms of any white-flowered variety, Mr. HATHERDALE, Manor Cottage, Cardiff, won with typical examples of Mrs. Lewis; Mr. EDWARDS, with Madame Carnot, 2nd. For any other colour, Mr. ALLEN won with very fine examples of Mrs. Mileham; while the variety Mrs. Mease won for Mr. EDWARDS the 2nd prize.

Single-flowered varieties were well staged. For six bunches, Mr. T. BINDON, gr. to Dr. T. WALLACE, Cardiff, won quite easily. He also had the best arranged vase of single-flowered varieties. There were few plants, but they were of good quality.

Mr. W. TRESEDER, Cardiff, had the finest group of Chrysanthemums, in which were really good blooms. It was effectively displayed in the centre of the hall. Mr. TRESEDER also staged the best bush-grown plants. Mr. BINDON won for trained specimens.

Wreaths, crosses, bouquets, &c., are always well shown. Mr. TRESEDER, Mr. CROSSING, and Messrs. ELLIS & SON, shared the prizes for magnificent cut examples of floral art.

NON-COMPETITIVE EXHIBITS

were numerous and good. Gold Medals were awarded to Mr. JOHN BASHAM, Bassaleg, Newport, for a magnificent display of Apples, Pears, &c. To Messrs. J. CYPER & SON, Cheltenham, for Orchids; and to Mr. W. TRESEDER for Dahlias and Roses.

HEREFORDSHIRE FRUIT AND CHRYSANTHEMUM.

NOVEMBER 4, 5.—In very favourable weather this Society held its annual show in the Shire Hall, Hereford. There have been seen at Hereford Apples and Pears (for which the county is famous) of better quality than was the case on this occasion, but the falling off was scarcely perceptible, and the quality and quantity of fruit staged surprised many. Not only was the spacious hall quite filled, but its adjacent corridors and rooms also. Grapes were exhibited of excellent quality, also Chrysanthemums in groups and as cut flowers arranged in vases, for which several classes were provided, and they attracted much attention and greatly beautified the appearance of the hall.

FRUIT.

Twenty-four dishes of Pears. Mr. HUMPHRIES, gr. to the Earl of CHESTERFIELD, Holm Lacey, was the only exhibitor in this class, but the high quality of his fruit deservedly secured for him the 1st prize.

The class for twelve dishes was again confined to one exhibitor, viz., Mrs. BASHILL, Bridge Sollars, who had splendid fruits.

Mr. JONES, gr. to H. L. LUTWICHE, Esq., was the only exhibitor in a class for eight dishes.

Apples.—The best of three exhibits of collections of fifty dishes, dessert and culinary, was from Mr. WATKINS, Pomona Farm, Withington, Hereford, who had a splendid collection of large, highly-coloured fruits containing the choicest varieties, amongst which the following were noted:—Lady Waldron, Allington Pippin, Boston Russet, Mannington Pearmain, Colville Rouge Froce, Tom Putt, Cox's Orange Pippin, Court Pendu Plat, Warner's King, Severn Bank, Mere de Ménage, Alfriston, &c. The 2nd prize collection was brought from Cheshire by Mr. LEE, of Bebington. The fruits were generally large in size but deficient in colour. Messrs. PEWTRESS BROS., Tillington Nurseries, Hereford, were 3rd.

Mr. WOOTTON, of Byford, Hereford, was the only exhibitor of thirty dishes, and staged clean, well-coloured fruits.

For twenty-four dishes, including twelve dessert and twelve culinary, there were five competitors. Mr. JONES, gr. to C. W. HAZLEHURST, Esq., Morton Court, took the lead, having as his best dishes Stirling Castle, Court Pendu Plat, Worcester Pearmain, Gascoigne's Seedling, Cox's Orange, Blenheim Orange, Maltster, Wealthy, Golden Noble, Emperor Alexander, and Bedfordshire Foundling. The 2nd place was taken by Mrs. BASHILL.

The class for twelve dishes of kitchen varieties was also a strong one, and Mrs. BASHILL won 1st prize. Mr. JONES was placed 2nd; and Mrs. WOODHOUSE, Burghill Court (gr. Mr. Nunn), 3rd.

A class for eight dishes of dessert kinds brought Mr. JONES again to the front, with highly coloured, clean fruits. Mrs. BASHILL was 2nd.

A special prize was offered by Mr. Watkins for the 1st dish of Lord Hindlip Apple, and this was won by Mr. WOOTTON. Mrs. WOODHOUSE secured a similar prize offered by the King's Acre Nursery Co. for a dish of King's Acre Pippin.

The prize offered for the best dish of Grapes, Mr. GRINDROD won with Muscat of Alexandria.

The Apple-packing contests for market purposes caused great interest. In a class for a barrel or hamper containing not less than 40 lb., or more than 56 lb.,

Messrs. PEWTRESS BROS. were placed 1st, and Mr. Froggatt, gr. to D. L. WALKER, Esq., Belmont, Hereford, 2nd.

For a box of not fewer than 24 lb., or more than 28 lb., Mr. FROGGATT was 1st and Mr. PARRY 2nd. In this competition the exhibitors in each case used the variety Court Pendu Plat, and notwithstanding that the packing was considered by the judges to have been well done, in their opinion it would have been better if the fruit had been made more firm.

There were many classes devoted to tenant farmers and cottagers, and a fine lot of fruit was brought by them—in fact, in these classes very little, if any, difference in point of quality was observable from that found in the Open or Amateur classes.

For a collection of six dishes of fruit, only two entries were made. Mr. GRINDROD easily secured 1st honours; Mr. FROGGATT was 2nd.

Mr. FROGGATT was 1st for three bunches of Gros Colmar Grapes, and Mr. GRINDROD led for three bunches of white Grapes with good full bunches of Muscat of Alexandria. He was also 1st for any other black variety except Gros Colmar, with fine bunches of Gros Marce.

CHRYSANTHEMUMS.

There was close and splendid competition in the class for twenty-four Japanese blooms, the examples throughout being good. Mr. EAMSON, gr. to Mrs. HOPE, Whitney Court, was 1st amongst four exhibitors; Mr. HAMMOND, gr. to H. GODSELL, Esq., Stroud, was 2nd; and Mr. GRINDROD, 3rd. Mr. EAMSON was again leading in a class for twelve Japanese with equally good duplicate blooms; followed by Mr. Smith, gr. to Sir J. RANKIN, Brynwyn, Hereford.

There were three classes provided for blooms with long stems arranged in vases, and these exhibits were deservedly admired by the visitors to the show. A class for six vases, each to contain a distinct, undisbudded variety, was won by Mr. HUMPHRIES, gr. to the Earl of CHESTERFIELD, Holm Lacey; Mr. GRINDROD was 2nd.

The exhibits for the best four vases of distinct varieties, three blooms in each vase, brought Mr. EAMSON again to the front; Mr. WHITING, White Cross Nursery, Hereford, 2nd.

For the best single vase filled with any kind of Chrysanthemum blooms mixed with any kind of foliage, there was a beautiful display, Mr. Talbot, gr. to Sir G. CORNWALL, Moccas Court, being placed 1st.

Groups.—Two entries only were made for a group of Chrysanthemums arranged on a space of 12 feet by 7 feet. The leading one, which came from Mr. WHITING, White Cross Nursery, gained 1st prize; Mr. JONES, gr. to T. STANWARNE, Esq., Ayleston Hill, was 2nd.

For a group of miscellaneous plants in a space 10 feet by 7 feet, Mr. HAMMOND won with a beautiful display of Cattleyas, Dendrobiums, Begonias, and ordinary decorative ornamental foliage plants; Mr. GRINDROD was 2nd.

NON-COMPETITIVE EXHIBITS.

The KING'S ACRE NURSERY COMPANY had a grand lot of Apples and Pears; also bouquet and floral wreaths, &c., together with a background of choice decorative plants.

Mr. WILSON, Commercial Street, Hereford, arranged a large side table with beautiful bouquets, wreaths, crosses and other designs.

Mr. WATKINS, Pomona Farm, exhibited Cactus Liliass.

WEYBRIDGE.

NOVEMBER 5.—The annual show was held in the village Hall. For twelve Japanese blooms, distinct, and eighteen blooms, distinct, Mr. J. LOCK, gr. to Sir SWINFEN EADY, won with large handsome blooms of popular varieties. Mr. T. STEVENSON, gr. to E. MOCATTA, Esq., Addlestone, was 2nd in both classes. Mr. LOCK also had the best incurved varieties, staging twelve distinct varieties in medium-sized, fresh-looking examples; Mr. H. BUCKMASTER, gr. to F. W. SMITH, Esq., Oatlands Park, 2nd.

Reflexed varieties were well represented, Mr. CARYER having the best specimens, as he had also of Pompons. Mr. PAGRAM, gr. to — COURTENAY, Esq., Weybridge, had a charming collection of single-flowered varieties.

Japanese varieties, to be shown in twelve vases containing three blooms each, were well staged by Mr. W. JONES, gr. to A. D. COBBETT, Esq., Weybridge; Mr. BUCKMASTER, 2nd.

Groups of Chrysanthemums were satisfactory. Mr. PAGRAM won 1st prize with a pleasing arrangement of Japanese, single-flowered, and Pompon varieties; Mr. W. SHUTE, 2nd. Mr. C. BEAL, gr. to J. ANDERSON, Esq., was 1st for a smaller group.

DEVON AND EXETER HORTICULTURAL.

NOVEMBER 5, 6.—The number of entries was somewhat less, although there were about as many exhibitors as last year. There was no falling off in the quality of cut-blooms, but in the single dishes of fruit the disastrous effect of the past season was especially manifest.

CHRYSANTHEMUMS IN GROUPS.

An exhibitor who entered the lists for the first time, Mr. JAMES TOWNSEND, Exeter (gr. Mr. E. Phillips), took premier honours with a very fine group

of eighteen varieties, arranged in a circle 10 feet in diameter. The blooms and foliage were clean, fresh and bright. Mr. W. BROCK, Parkerswell (gr. Mr. W. Rowland), was 2nd.

In the smaller group, 8 feet in diameter, Mr. C. M. COLLINGWOOD, Institution for the Blind, was 1st; and Mr. BROCK, 2nd.

For a miscellaneous group of plants in an oval space 11 ft. by 8 ft., Mr. BROCK was 1st with a well-arranged group, including several good Orchids; Mr. W. B. HEBBERDEN, C.B., Elmfield (gr. Mr. E. Cole), 2nd.

The Cyclamens staged by Mr. T. KEREWICH, Peamore (gr. Mr. J. Abram), were very good; as were the table plants shown by Mr. HEBBERDEN.

CUT BLOOMS.

These formed the best feature of the Show, and the 1st prize exhibit of thirty-six Japanese in twenty-four varieties, staged by Mr. F. S. VALLIS, Chippenham, were as fine as any ever seen at this Show. Among his best were two seedlings first grown by Mr. Martin Silsbury, Shanklin—Valérie Greenham, a pinkish-purple; and Brightness, a reddish-purple, with rather broad florets beautifully curled at the tips. Mr. G. FOSTER, Teignmouth, was a good 2nd.

FRUIT.

An unusually strong competition took place in Grapes. Mr. G. MATTHEWS, Exmouth, was 1st for Black Alicante; the Rev. A. H. HAMILTON-GELL, Winslade, for Muscat of Alexandria; Mr. J. F. G. BANNATYNE, President of the Society (gr. Mr. T. Ellicott), was 1st in the "any other" class, with three very fine bunches of Mrs. Pince; and in the class for three distinct varieties was again 1st with Mrs. Pince, Muscat of Alexandria, and Black Alicante, the latter very good.

For six dishes of fruit, Mr. BANNATYNE was 1st with Black Alicante and Muscat of Alexandria Grapes, King of the Pippins Apples, Hero of Lockinge Melon, Duchesse D'Angoulême Pears, and Negro Largo Figs.

In the class for the large collection of Apples, including thirty varieties, fifteen dessert, fifteen culinary, Sir JOHN SHELLEY, Shobrooke (gr. Mr. R. Mairs), was 1st; and Sir JOHN F. DAVIE, Creedy Park (gr. Mr. W. Seward), 2nd.

Mr. HEBBERDEN showed some very highly coloured but small fruits of American Mother, Blenheim Orange, and King of the Pippins, and won the 1st prize in a class for six dessert Apples.

For Pears, Sir JOHN SHELLEY was 1st, and Sir J. F. DAVIE 2nd, in the largest class, each showing good fruits. In the Doyenné du Comice class Mr. KEREWICH staged very fine fruits, superb in colour and quality, and large in size, Doyenné du Comice, shown by Sir J. SHELLEY, took 1st prize for flavour; while in "any other" dessert class, Sir J. DAVIE was 1st with the variety Charles Ernest. In the "any other" culinary class, Sir J. SHELLEY was 1st, with Black Pear of Worcester.

The trade exhibitors included Messrs. ROBERT VEITCH & SON, Exeter; CURTIS, SANFORD & CO, Torquay; SUTTON & SONS, Reading; and among the honorary exhibitors were Lord POLTIMORE (gr. Mr. T. Blade), who showed Grapes; Mr. J. F. G. BANNATYNE, Haldon House; and Mr. C. MARKS, Heavitree.

BRADFORD AND DISTRICT CHRYSANTHEMUM.

Nov. 13.—The 17th annual exhibition was held in St. George's Hall, Bradford. The exhibition comprised some of the most brilliant examples of Chrysanthemum blooms ever seen in Bradford. Last year the Society offered increased money-prizes, in addition to cup trophies, in the hope of attracting the best cultivators of the Chrysanthemum in the country. This year the number of competitors was much larger than has usually been the case. Exhibits were included from Rugby, Penrith, Chippenham (Wiltshire), Ripon, Chester, Liverpool, Leicester, Cardiff, Hull, and other places remote from Bradford. In one of the open classes, in addition to a Silver Challenge Cup, valued at 10 guineas, money-prizes, amounting altogether to £28 10s., were offered for twenty-four blooms of the Japanese varieties. The number of competitors for this coveted prize was eight.

Excellent qualities were present in the collection shown by Mr. A. CHANDLER, of Rugby, who took 1st prize and the Challenge Cup, a feat which he accomplished at the Bradford exhibition of last year. The following is a list of Mr. CHANDLER's principal flowers: F. S. Vallis, Marquis V. Venosta, Bessie Godfrey, Australe, Duchess of Sutherland, Mrs. Weeks, Sensation, Mafeking Hero, George Hamilton, Henry Stowe, Mrs. Barkley, Miss Mildred Ware, Fred Cadbury, Mrs. G. Mileham, W. R. Church, Lord Ludlow, Ethel Fitzroy and Mrs. J. Bryant.

Mr. CHANDLER was also successful in carrying off the prizes for the champion Chrysanthemum bloom in the exhibition, a specimen of the variety named F. S. Vallis. This flower was $2\frac{1}{2}$ inches in height, the circumference not being so extraordinarily large. Mr. F. J. CLARK, of Leicester, was 2nd; and the 3rd prize was awarded to Mr. F. S. VALLIS, of Chippenham, Wiltshire, who is one of the most successful cultivators of the Chrysanthemum in England.

In the incurved section, Mr. EMANUEL ELLIS, of Haswell, Cheshire, was 1st, with the following beau-

tiful flowers:—Madame Ferlat, F. Hammond, C. H. Curtis, G. Symonds, Perfection, Duchess of Fife, Pearl Dauphinois, Edith Hughes, V. Foster, J. Seward, Fred Palmer, Lady Isabel, Ralph Hutton, Pearl Palace, G. Bruant, Mrs. W. G. Jones and Nellie Southam. Mr. ELLIS was also the winner of the 1st prize in this class last year, and his exhibit this year included very remarkable specimens.

The local classes for cut Chrysanthemums were also well filled, the winners of the principal prize being Messrs. H. CLARK & SON, of Rodley; with Mr. JOHN THORNTON, of Drighlington, 2nd; and Mr. JOHN BROOKE, of Heaton, 3rd.

The competition for groups of Chrysanthemums in pots was limited to two growers—Mr. L. SHARMAN, of Undercliffe Cemetery, and Dr. H. SMITH, of Frizinghall, who were placed 1st and 2nd respectively.

The groups of miscellaneous plants numbered three, and formed a highly decorative feature in the hall. The 1st prize was deservedly taken by Mr. R. EICHEL, of Eldwick.

The following contributed exhibits "not for competition":—Messrs. W. WELLS & Co, florists, Redhill, Surrey, group of Chrysanthemums; and Mr. ARTHUR EDWARDS, florist, Arnold, Notts, "Edwardian" table and room decorations.

The following were the judges:—Mr. WILSON, Swanland Manor, near Hull; Mr. LEADBETTER, Tranby Court, Hull; Mr. IRELAND, Sedgwick House, Kendal; and Mr. M. MIDDLEY, Bingley.

GLOUCESTERSHIRE ROOT, FRUIT, AND CHRYSANTHEMUM.

NOVEMBER 9.—The fortieth annual show in connection with the above Society was held in the Shire Hall, Gloucester. There were increased entries in most of the classes, and the quality of the exhibits generally was excellent. There was a record entry for field crops. The County Cup, valued £20, was won by Mr. JEFFERY MATTHEWS, of Winterbourne.

The Chrysanthemums formed one of the great attractions of the show, and the various groups of cut blooms included some magnificent specimens.

In the Fruit classes, for collections of Apples and Pears, the 1st prizes were awarded to Mr. D. PHELPS, Tibberton, for fifteen distinct varieties; Mr. J. R. BENNETT, Chaxhill (Apples and Pears staged in a space not exceeding 50 square feet); Mr. J. H. WOOTTON, Byeford, Hereford (dessert Apples); Mr. D. PHELPS, Tibberton (culinary Apples); and Mr. W. GORDON CANNING, Hartpury (dessert Pears).

In the Chrysanthemum classes Sir WM. WEDDERBURN, Bart., secured the 1st prize for a group of Chrysanthemums in pots; the Misses DAVIES, Stonehouse, carried off the premier award for twelve incurved cut blooms; Mr. T. DYER EDWARDS, Prinknash Park, won the 1st prize for eighteen Japanese cut blooms; and Miss L. B. HALE secured the 1st prize for twelve Japanese cut blooms.

The champion prize of 5 guineas, given by Mr. H. Terrell, K.C., for the highest number of points, was won by Mr. A. W. G. WRIGHT, of Newent, with a total of 30 points.

THE HORTICULTURAL CLUB.

NOVEMBER 10.—The usual monthly dinner of this Club took place on the above date, under the presidency of Mr. Harry J. Veitch, and was well attended, a paper having been announced on "Vegetable Curios," by Mr. G. S. Saunders, F.L.S., as the special attraction on this occasion.

The branch of this extensive theme with which the lecturer specially dealt was that of malformations in flowers and fruit rather than the more general one of "sports" proper; and the paper was rendered the more interesting by the exhibition of a large number of beautifully executed drawings of specimens which had come under Mr. Saunders' personal notice. A considerable number of these represented curious divergences from the normal structure of Cypripedium flowers, which appear peculiarly prone to their production, the various parts of the flower appearing abnormally changed in form, or even duplicated or reversed, although in the large majority of cases the modifications can be traced as mere change of form of normal parts, and rarely as actual additions. In these cases of simple malformation, as in most of the others described and exhibited, such as double fruits, foliaceous flowers, and fasciation, the peculiarity was almost invariably confined to the individual plant, or even the individual flower; and although recurrent cases were cited, they seemed, as a rule, incapable of reproduction through the seed. It was also pointed out that similar eccentricity was much rarer in leaves than in flowers, due presumably to the higher specialisation of the parts of the latter, many abnormal forms of which were obviously due to more or less reversion to the primary leaf-type.

The cause of such aberration appears to be entirely a mystery, as it is with "sports" proper. In the subsequent discussion, in which the Rev. Mr. Henslow, Mr. Harry Veitch, Mr. Walker, Mr. Drury, Mr. Chas. Pearson, and Dr. Cooke took part, Mr. Henslow cited a number of abnormalities on similar lines to those

mentioned by the lecturer, and gave some explanations regarding the particular modifications of the floral organs, &c., involved. Double flowers were also alluded to, very opposite opinions being expressed as to the reason why they appeared, starvation being adduced as one reason; while Mr. Harry Veitch cited the very apposite though opposite case of double Rhododendrons raised by his firm by fertilisation from apparently accidental petaloid stamens where the highest culture prevailed throughout. Mr. Walker mentioned several cases, and said he could cite many more, of Narcissus sports or reversions occurring in his cultures, which he felt inclined to refer to sudden change of treatment. Mr. Drury referred to the innumerable curios which had originated among Ferns in which modifications of the leaf equivalents or fronds were singularly marked as well as numerous. He also pointed out the strong resemblance and yet essential difference between fasciation and the cretting to which most Fern species seemed subject, though among flowering plants no definite instance could be cited. Finally he strongly deprecated the classing of symmetrical sports capable of true reproduction through spore or seed with what had been previously described as Barnum-like "freaks," which he maintained belonged, like the malformations cited by the lecturer, to a different category altogether. A hearty vote of thanks to the lecturer concluded the proceedings.

CHELTENHAM ROOT, FRUIT, AND CHRYSANTHEMUM.

NOVEMBER 4.—The annual show of the Cheltenham Root, Fruit, and Chrysanthemum Society was held in the Winter Garden, and extended over Thursday. Speaking in general terms the exhibition was, from many points of view, superior to that of the preceding year, and in only one instance (fruit) was there any falling away in either the number of entries or the quality of the exhibits.

In the flower and fruit section the entries amounted to 250—a few in advance of last year. Fruit showed a big falling off, excepting Grapes, which formed a wonderful collection, some very fine specimens being shown. With reference to flowers, as already stated, there was a considerable increase in the number and quality of the entries, especially in Chrysanthemum. The cut blooms afforded an opportunity for the Committee to strike out in a new direction, the blooms being placed with long stems in vases, a very pretty effect resulting.

The Corporation Cup for Chrysanthemums was won by Mr. W. MOORMAN, who also took the Baron de Ferrieres' special prize of 10s. 6d. for the best Chrysanthemum-plant in the show. Mr. J. HORLICK, Cowley Manor, secured Mr. Hicks-Beach's Cup for the best group of Chrysanthemum-plants for the third year in succession, so that it now becomes his absolute property. Mr. HORLICK also succeeded in retaining the Silver Cup (which he won for the first time last year) offered by Col. R. Rogers for a group of Chrysanthemums and foliage. F. Pamphilon.

READING CHRYSANTHEMUM.

NOVEMBER 11.—Reading always provides a very fine Chrysanthemum show, but it has to be divided between two halls, the old and the new Town Halls, the city not appearing to have a hall of sufficient capacity to hold an undivided display. The classes were generally well filled, but there was a falling off in the case of the Apples and Pears, which are generally so fine at Reading; but some good Grapes compensated for their loss.

In the old Town Hall were the various groups. In addition to the 1st prize in money offered for a large group, there was also a massive Challenge Cup, the condition of becoming the ultimate possessor of it being that it be won three times in immediate succession. This was accomplished by the late President, CHARLES E. KEYSER, Esq., of Aldermaston House, and it was won for the third time in 1902 by Mr. Galt, his gardener. Mr. KEYSER generously gave another Challenge Cup of equal value, which Mr. Galt again essayed to win for his employer, but had to sustain defeat at the hands of A. F. WALTER, Esq., Bearwood, Wokingham (gr. Mr. Barnes), who put up a massive group of well-grown plants carrying large blooms. Mr. C. KEYSER came a close 2nd.

Another class required a group of plants to include at least three sections of Chrysanthemums arranged with foliage plants. The 1st prize was won by Lady COOKE, East Thorpe, Reading (gr. Mr. Exler). There were other groups arranged on definite table spaces to illustrate the decorative value of the Chrysanthemum, and these were well filled and some pretty effects were secured. Specimen plants were only sparingly shown.

Cut blooms were in fine character; the twenty-four Japanese from Mr. C. T. D. CREWS, Billingsbar Park, Reading, included some of Mr. Godfrey's novelties in excellent character; and Sir CHAS. RUSSELL, Bart., Swallowfield Park (gr. Mr. Cole), was a close 2nd. There was a good competition with twelve varieties also.

With twenty-four varieties of incurved blooms H. H. Prince HATZFELDT, Draycott, Chippenham (gr. Mr. Bible), was the only exhibitor, and showed very good blooms. C. E. KEYSER, Esq., was 1st with twelve varieties.

The best six incurved of one variety were C. H. Curtis, in perfect character, from the Marquis of DOWNSHIRE, Easthampstead Park (gr. Mr. Simms); Sir C. RUSSELL came 2nd with excellent blooms of *Italino*.

Six vases of specimen blooms of Japanese varieties, three blooms of each, brought several competitors; A. F. WALTER, Esq., again taking the 1st prize; Sir C. RUSSELL was 2nd. Single varieties were shown in twelve bunches, and made a very pretty feature.

Very good Alicante and Lady Downes Grapes were staged. The best two bunches of the former came from D. E. TAYLOR, Esq., Marshfield, Chippenham (gr. Mr. Coote); and of Lady Downes from G. C. RAPHAEL, Esq., Englefield Green (gr. Mr. Brown). The best two bunches of Muscat of Alexandria were from Mr. NICOLLS, gr. Strathfieldsaye.

Of miscellaneous exhibits, Mr. PHIPPEN, Court Florist, Reading, had a collection of floral designs; and Mr. GEO. PRINCE, nurseryman, Oxford, exhibited autumn Roses.

A word of praise is due to Mr. W. L. Walker, the secretary, and his assistant, Mr. Woodford, for their excellent arrangements, which greatly facilitated the work of the judges.

BROMLEY CHRYSANTHEMUM.

NOVEMBER 11, 12.—The twenty-second annual show of the above Society, held at the Grand Hall, was one of the best shows the Society has had.

In the class for a group of Chrysanthemums in pots there were five entries. Mr. E. DOVE was 1st with a well-displayed group, the plants carrying large flowers and good foliage.

In the competition for the Challenge Cup, which was offered for twenty-four Japanese and twenty-four incurved blooms, there were three entries, Mr. J. F. POOLE taking 1st with an even, well-finished lot of blooms.

In the class for vases (nine varieties, three blooms in each vase), Mr. C. BLICK was 1st with grand blooms; the varieties were:—Mrs. Weeks, Elsie Fulton, General Hutton, Mrs. F. S. Vallis, Mr. F. S. Vallis, Maleking Hero, Mrs. Barkley, Australia, and Mrs. Mease.

In the class for twelve incurved and twelve Japanese blooms there were five entries, Mr. BLICK taking 1st prize.

For twelve incurved blooms there were six entries, Mr. J. KING taking 1st with well-finished blooms.

Forty-two Japanese blooms there were seven entries. Mr. BLICK was 1st with very large blooms.

There was a fine display of single varieties. In the class for six varieties, five blooms of each, shown in vases, there were five entries; Mr. E. REDDEN taking 1st, with some very pretty blooms.

In the Ladies' Class for table decorations (Chrysanthemums and foliage), Miss AGNES WHEATLEY was 1st with a pretty arrangement in pink; Miss NELLIE SMITH 2nd, with crimson and bronze.

For a group of miscellaneous plants there were three good exhibits, Mr. J. LYNES being 1st with a very choice arrangement; Mr. KING was a good 2nd. There were good exhibits of fruits and vegetables.

Messrs. BOND & Co., local florists, exhibited floral arrangements and pot plants, and decorated the stage. Messrs. J. J. CHAMBERLAIN exhibited floral tributes.

WINCHESTER CHRYSANTHEMUM.

NOVEMBER 11, 12.—The annual exhibition was held in the Guildhall. In the cut bloom section the entries were fewer than usual, but the quality was good. Plants were good as usual. Fruit and Grapes especially were capital. The arrangements were under the skilful supervision of Mr. CHALONER SHENTON, the Hon. Secretary.

Groups of Chrysanthemums were arranged around the sides of the hall. Mr. Pittman, gr. to Mrs. H. CURTIS, Oakwood, Otterbourne, easily won 1st prize, with high-class blooms, especially the incurved varieties Mr. Pearce, gr. to H. JOHNSON, Esq., Northgate Place, Winchester, 2nd.

For nine dwarf plants suitable for conservatory decoration in pots, of not more than 9 inches in diameter, Mr. G. ADAMS, gr. to Col. DICKINS, Edgehill, Winchester, was the most successful, Mr. H. GIGG, gr. to Rev. R. M. MOORSOM, Holywood, Winchester, was 2nd.

The same exhibitors occupied the same places for nine plants, any white or yellow varieties. Very fine were the plants of C. H. CURTIS, Mrs. Judson, and Mrs. Greenfield in the winning exhibit.

Miscellaneous plants arranged in groups for effect made a good show. Mr. E. LONG, gr. to F. C. BURCH, Esq., Winchester, was easily 1st.

For twelve Primulas Mr. LONG won with double-flowered forms, exceedingly free and of large size.

CUT BLOOMS.

There was but one exhibitor in the leading class—that for forty-eight, distinct, half Japanese and the remainder incurved—Mr. Neville, gr. to F. W. PUGH, Esq., Twyford, Winchester, who was awarded the 1st prize for an admirable set in both sections.

For thirty-six Japanese, in not fewer than twenty four varieties, Mr. Wasley, gr. to J. B. TAYLOR, Esq., Sherfield Manor, Basingstoke, won with large, well-

coloured examples of leading varieties; Mr. NEVILLE, 2nd.

Twelve distinct Japanese were best staged by Mr. Dawes, gr. to Mrs. OGILVIE, Hambledon.

Classes for flowers shown in vases were few. For nine varieties, three blooms of each, Mr. WASLEY won the premier award with handsome examples of F. S. Vallis, Godfrey's King, W. R. Church, and Mme. Paolo Radacelli; Mr. NEVILLE 2nd. Mr. A. J. Marsh, gr. to M. HODGSON, Esq., Morton House, won for six triplets, distinct.

Amateurs were well represented. Mr. YARROW, Winchester, won for twelve Japanese with handsome blooms.

Grapes were fine. Mr. W. Mitchell, gr. to J. WILLIS FLEMING, Esq., Chilworth, Romsey, won for three distinct varieties; and Mr. WASLEY for two bunches of any variety.

Mr. T. Hall, gr. to Sir SAMUEL MONTAGUE, Bart., South Stoneham House, had the best Apples and Pears.

MISCELLANEOUS.

Several classes were open to ladies only. For a stand of flowers for table decoration Miss AYRON, Cornstiles, Twyford, Winchester, was the most successful. Mrs. E. LADHAMS, Shirley, Southampton, won the premier award for a table decoration of flowers, foliage, &c.—a pretty arrangement of pink Roses.

A Gold Medal was awarded to Messrs. E. HILLIER & SON for a display of Apples.

Mr. Ellwood, gr. to W. H. MYERS, Esq., M.P., Swanmore House, Bishops Waltham, staged a pretty group of Crotons.

Messrs. TOOGOOD, Southampton, Potatoes, Onions, &c.

CANTERBURY GARDENERS'.

NOVEMBER 11, 12.—The twenty-sixth annual show of Chrysanthemums, vegetables, and fruit was held in the Corn Exchange, the weather fortunately proving fine for the occasion, and a large number of people patronised the show on both days. The number of exhibits this year was not quite so large as is usually the case, but the quality was truly surprising. The vegetables and flowers generally were really of great merit; whilst the fruit, which suffered most severely from the season, was under the circumstances good.

Mr. D. FAIRWEATHER, with a wonderful collection of Chrysanthemums and foliage arranged for effect, with a "D" shaped front, was, for the second time, the winner of the Challenge Cup. Mr. SLOPER had also arranged a very striking group of Chrysanthemums, which gained 2nd prize. Messrs. TAYLOR BROS. and Mr. W. R. PIERCE very kindly exhibited flowers, fruit, and vegetables; whilst Mr. FAIRWEATHER displayed seedlings grown this year, some of which were named Sir George Collard, Lady Collard, Mr. Henniker Heaton, Mrs. Henniker Heaton, and after other distinguished local personages.

The arrangements for the show were in every way admirable, and Mr. Hollman (the Chairman), Mr. Topliss (the Secretary), and their able Committee are to be congratulated upon the success which attended their efforts.

KINGSTON CHRYSANTHEMUM.

NOVEMBER 11, 12.—Held again in St. James' Hall on the above dates, the twenty-seventh annual exhibition of this old Society showed in cut blooms quite wonderful excellence, those in the leading classes surpassing previous examples.

GROUPS.

Among groups of miscellaneous plants, of which there were four, that which gained the 1st prize was one of singular beauty and merit, and came from the gardens of E. W. ROBINSON, Esq., Brockleigh, Esher (gr. Mr. J. Nodda). The chief features consisted of Calanthes in quantity, prettily arranged with other flowering and foliage plants. MALCOLM S. COOKE, Esq., Kingston Hill (gr. Mr. Buckell), came 2nd.

There were five compact Chrysanthemum groups, the best coming from C. LAWES SMITH, Esq., Ditton Hill (gr. Mr. Plowman), who was 1st; G. W. WARDELER, Esq., Long Ditton (gr. Mr. Burfoot), 2nd.

CUT FLOWERS.

Of Japanese, very fine blooms were staged in the Open class for twenty-four. The 1st place was taken by JAMES DREW, Esq., Staines (gr. Mr. W. Jinkes), who had in superb form Godfrey's Pride, General Hutton, Mafeking Hero, Mrs. Greenfield, Mrs. H. Weekes, Kimberley, and others. Mr. Justice SWINFEN EADY, of Weybridge (gr. Mr. J. Locke), was 2nd. With twelve blooms Mr. LOCKE was 1st; G. J. MILLER, Esq., Leatherhead (gr. Mr. Mileham), was 2nd.

A new class for twelve blooms set up in a large vase brought some wonderful flowers, Mr. READ coming 1st with giant examples of Mrs. Mileham and General Hutton; Mr. JINKES 2nd with a noble lot.

Incurved blooms.—Mr. G. Hunt, gr. to PANTIA RALLI, Esq., Ashstead Park, Leatherhead, had the best twelve blooms, and included Duchess of Fife, Ralph Batton, Ialene, C. H. Curtis, Ada Owen, Mrs. E. Seward, W. Higga, Mrs. W. E. Egan, Mrs. Jas. Eadie, Hanwell Glory, Miss M. Threlfall, and Edith Hughes. F. BRABY, Esq., Teddington (gr. Mr. Fitzwater), was 2nd.

There were numerous flowers shown in the local amateurs' and cottagers' classes, competition in all cases being keen.

PLANTS.

A remarkable feature were the many plants of Begonia Gloire de Lorraine. The best half-dozen came from Mr. BLEUCCOMBE, who had close competitors in Mr. MILEHAM and Mr. S. PEAD.

With six Anthuriums, diverse, Mr. LOCKE was 1st for flowering plants; Mr. MILEHAM coming 2nd with Bouvardias and zonal Pelargoniums. Mr. FITZWATER was 1st with six double Primulas, and Mr. PEAD with singles.

TABLE PLANTS

were numerous and good, a singular equality running through the whole collection.

FRUIT.

The representation of this section of the show was unusually small, telling forcibly of the nature of the season. Mr. HUNT had the best collection; Mr. LOCKE was 2nd. In the class for four dishes of Apples, Mr. H. EGLETON was 1st; Messrs. BLEUCCOMBE and TAYLOR coming 2nd and 3rd. Mr. PLOWMAN was an easy 1st with a basket of very fine vegetables.

RUGBY CHRYSANTHEMUM.

NOVEMBER 11, 12.—In spite of the many difficulties with which it has had to contend, the Rugby and District Chrysanthemum Society still exists, and year by year promotes a capital show. The annual exhibition was held at the Town Hall on the above dates, and though, owing to the excessively wet season, there was a falling off in the vegetable produce staged, other sections of the show were well filled, and in the Chrysanthemum classes many blooms of great merit were exhibited.

Sir ALBERT MUNTZ's twenty-four Japanese blooms that won 1st prize were the finest ever seen at this show. The collections of twelve blooms were also excellent. Apart from the Grapes, which were of high quality, there were only Apples in the open fruit classes, and in the open vegetable classes there were two collections only—by Miss MANSELL, of Sulby Hall, and Sir ALBERT MUNTZ, Bart., M.P.

There was only one group of plants in the Open class, and this, shown by Mr. E. A. SCOTT, of The Lawn, North Street, was awarded the 1st prize. The Primulas and Cyclamens were pretty, and the prize-winning Begonias, shown by Mr. ARTHUR JAMES, were marvels of perfection.

Mr. R. FENLEY, Pennington Street, was the only exhibitor in the Amateurs' and Cottagers' class for groups. He showed a beautiful lot of plants, and was awarded 1st prize.

Messrs. E. C. BADHAM, High Street, and J. NEWMAN, Market Place, showed flowers, &c., not for competition.

As usual, there was a stall on which was offered for sale fruit and flowers for the benefit of the Royal Gardeners' Orphan Fund. This was managed by Miss Bryant (daughter of the Society's secretary). Up to the present time this Society has forwarded £80 to the Fund, and it is hoped that it will now be possible to make up the amount to £100.

PUTNEY AND WANDSWORTH CHRYSANTHEMUM.

NOVEMBER 12, 13.—One of the most vigorous and prosperous of the suburban societies, the Putney and Wandsworth Chrysanthemum, is supported zealously by both of the townships represented in its title. The composite nature of the Society has been recognised by the policy adopted by the committee of transferring the exhibition from one township to the other every season. The system has its disadvantages, because, whilst Wandsworth possesses a spacious and beautiful room in its Town Hall available for the purposes of the exhibition, at Putney the only suitable place is the Assembly Rooms, which do not provide nearly the amount of space that is necessary for the exhibits.

For this reason the twenty-sixth annual exhibition held at Putney on the above dates, though superior in general quality to most, if not all previous shows, had a less good effect than that held at Wandsworth in 1902.

But admitting that the plants and flowers were crowded together, and there was not sufficient space for the visitors to move about conveniently, the exhibition was nevertheless one of which any similar society might well be proud.

In the class for a collection of Chrysanthemums, in not fewer than twenty varieties arranged on a semi-circular space of 40 superficial feet, the exhibits were very praiseworthy; for although the amount of space was not sufficient for attempting any other method of arrangement than of forming half a pyramid, the plants and flowers contained in them were extremely good, the 2nd prize exhibit lacking nothing in quality of bloom, although the "finish" of the group was less perfect. The 1st prize was gained by Mr. R. Bradford, gr. to E. H. BROWN, Esq., Highwood, Roehampton; and the 2nd prize by Mr. A. Smith, gr. to Mme. STUART, Convent Gardens, Roehampton.

Several pretty little groups of miscellaneous plants arranged for effect were shown, and the best was from

Mr. Chas. Bentley, gr. to Col. W. J. BOSWORTH, Cedar Court, Roehampton.

In the Cut Bloom classes, the best dozen incurveds, which were very good flowers, came from Mr. J. Prentice, gr. to J. D. CHARRINGTON, Esq., Gifford House, Putney Heath; 2nd, Mr. J. A. Fry, gr. to W. LAMBERT, Esq., Northumberland Avenue, Putney.

The best collection of twenty-four Japanese blooms was shown by Mr. J. Dark, gr. to JAS. HOOKER, Esq., Lomond House, Putney; Mr. A. SMITH, 2nd; but in the class for twelve blooms these exhibitors had reversed positions.

The principal class for blooms shown in vases was won by Mr. A. SMITH, who showed eight varieties, three blooms of each, in fine style.

There were numerous classes for cut blooms, Chrysanthemum plants, Primulas, Solanums, Begonias, fruits, and vegetables; and the show, consisting as it did exclusively of produce from the neighbourhood, it is evident that Chrysanthemum-culture in and about Putney is on the increase. The honorary secretary is Mr. J. F. McLeod, and the acting secretary Mr. W. J. Reynolds. The annual dinner will be held on Dec. 31.

LEEK SHOW AND COMPETITION AT KELSO.

It is not only as flower growers that the enterprising firm of nurserymen and seedsmen, Messrs. Laing & Mather (incorporated with Stuart & Mein), have achieved a wide and high reputation, but they have also attained to considerable fame as the vendors of high-class field and garden seeds. The firm's annual open Leek Competition, which took place within their premises here on Friday the 13th inst., was again an unqualified success. There were nine prizes offered, and the conditions were that each exhibit should comprise three Leeks, grown from seed purchased from the firm. As showing the widespread interest taken in the competition, it may be mentioned that exhibits were sent in from all parts of the country, even from as far south as Devonshire and Cornwall. In all there were thirty-six lots shown, and they made a very attractive display, the quality and size of most of the exhibits testifying to the superiority of the Lyon variety.

The 1st prize lot, shown by Mr. HOOD, Dryburgh, contained three remarkably good and evenly-grown Leeks, the blanched portions of which were nearly 18 inches in length, being at the same time close and fine in texture. The 2nd prize lot, belonging to Mr. A. J. HARRISON, Lauder, although not so evenly drawn as the 1st, were also very fine, and one of the three, which had fully 18 ins. of stem blanched attracted considerable attention. In the Easington Park exhibit, which gained 4th prize, there was one monster Leek, remarkable for its girth and generally good proportions. Friday being market day in the town, a large number of farmers and others interested visited the show. *Extract from Kelso Mail, November 11, 1903.*

LEEDS PAXTON.

NOVEMBER 13, 14.—The annual show of Chrysanthemums under the auspices of the Leeds Paxton Society was held in the Town Hall, Leeds, on the above dates. The show compared favourably with previous exhibitions, but it was noticed that some of the cut blooms were not so bright in colour owing to the sunless autumn, and therefore lack of light, especially in such northern districts as Leeds. A feature that attracted much attention, and one that was much admired at this show, was a class for naturally-grown Chrysanthemum flowers, which were shown in vases, the sprays having been cut with stems 18 inches long.

The two Silver Challenge Cups were won by J. BOYLE, Esq., Askit Hill, Roundhay (gr. Mr. Chas. Shaw), for exhibits of thirty-six Chrysanthemum blooms (open), including eighteen Japanese and eighteen incurveds, and twelve Japanese and twelve incurved (local class).

In addition to the classes for cut blooms there were others for groups of plants, and for stove and greenhouse plants, as well as fruit. We have a complete prize list appearing in the *Yorkshire Post* kindly sent by the secretary, Mr. Fred Yeaton, but have not space to reproduce the details.

BURTON AND SHOBNALL CHRYSANTHEMUM.

NOVEMBER 14.—The eighteenth annual exhibition was held in the Town Hall on the above date. In the Open classes the entries exceeded in number those of any previous year. Mr. R. NESBIT, gr. to Lieut. BASS, was deservedly placed 1st in this section for twenty-four Japanese blooms in not fewer than eighteen varieties. He showed some very nice specimens of the Princess Alice de Monaco and Mafeking Hero, whilst his Miss L. Evans was a well-cultivated bloom. The same grower was also placed 1st for twelve incurved blooms. This exhibitor was again successful with twelve distinct Japanese blooms; Mr. JOSIAH WOOD being a very good 2nd.

Coming to classes for gentlemen employing gardeners, professional and market gardeners, and nur-

serymen, Mr. R. GREEN was awarded premier honours with a dozen fresh Japanese, his bloom of the variety W. R. Church being considered by the judges the best bloom in the whole of this class.

A new departure for the Society was the class for six Japanese blooms, distinct, intermingled with foliage or foliage plants; and although only two exhibits were staged the Committee look forward in confidence to greater competition in the future. The 1st prize was awarded to Mr. S. Durose, gr. to the Mayor, for a pretty although rather too crowded exhibit; and Mr. H. SUTTON was 2nd.

A feature—and a very attractive one withal—was the groups of Chrysanthemums shown in connection with the Members' classes. Ranged along the side of the wall, these excited considerable interest. Each of the four groups were set out in semi-circular form, and was judged for quality and effect. Mr. E. J. Upton followed up his successes of the past five years by again securing 1st prize with a really splendid collection. The other flowers in this section were well up to the average, and the adjudicators had at times some difficulty in selecting the winners.

The florists' exhibits were again a feature of the exhibition.

LAW NOTES.

AN INTERESTING LAWSUIT.

IN the Court of Session, Edinburgh, on the 6th inst., Lord Kincairney, one of the Outer House Judges, gave his decision in an action which has much interest for all concerned with landed property. In this action the complainer, Mr. Neilson, the owner of the estate of Crossbasket, in Lanarkshire, craved the Court to have the proprietor of the neighbouring estate of Calderwood Castle, interdicted from cutting growing timber on that estate, on the ground that he was thereby depreciating the value of the estate, and injuriously affecting the security for a bond of £18,500, which Mr. Neilson held over the property. The complainer further alleged that what had been done was not in accordance with good management, that the trees which had been cut were amongst the most valuable on the estate, and that the cutting had been done for the sole purpose of making money. On behalf of the respondent, Mr. McNab, it was contended that such cutting as had been done was for the benefit of the estate; that the trees removed were decayed, blown, and overmatured, and their removal was necessary for the welfare of the others; and that he had no intention of denuding the estate of its timber, or of making money by such means. The proof lasted two days, the witnesses on both sides including a number of land valuers and forestry experts.

In giving judgment, Lord Kincairney stated that the case was of a kind which was of rare occurrence. It was a case where a heritable creditor sought to control a proprietor whose title was unlimited in the management of his estate, but his lordship clearly indicated that so long as the proprietor confined himself to legitimate management the court would not interfere. A study of the proof in this case had led his lordship to the conclusion that the complainer had wholly failed to establish a case entitling him to invoke the interference of the court. There was an ample margin of security (at least £14,000), and his lordship thought that the very small sum actually realised for the cut timber forbade the idea that there was no other object than to make money. Further, his lordship saw no reason to suppose that the respondent had any intention of cutting timber to any undue extent or so as to depreciate the value of the estate in any way, or that "he would do so unwise or short-sighted an act as to destroy the ornament to the estate which the old woods afforded, and without which it would lose all its charm, and doubtless not a little of its market value." His lordship therefore refused to interdict, with expenses against the complainer.

TRADE NOTICE.

THE firms of John Russell, Richmond, and John Russell, Brentwood, will now trade independently of each other. The group of trees and shrubs shown at the recent Chrysanthemum exhibition at the Crystal Palace was contributed by John Russell, Brentwood.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period Nov. 8 to Nov. 11, 1903. Height above sea-level 24 feet.

NOVEMBER 8 TO NOVEMBER 14.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERATURE OF THE SOIL AT 9 A.M.			
		At 9 A.M.		DAY.		At 1-foot deep.		At 2-feet deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	At 1-foot deep.	At 2-feet deep.	At 4-feet deep.	LOWEST TEMPERATURE ON GRASS.
SUN. 8	S.S.E.	45.7	43.4	52.3	35.8	0.6	17.2	50.7	53.3
MON. 9	S.W.	51.6	51.8	55.8	32.7	0.4	16.9	50.3	53.1
TUES. 10	S.W.	44.9	43.4	55.3	37.8	...	16.9	50.1	52.9
WED. 11	W.N.W.	51.7	50.1	53.3	44.7	0.2	14.8	45.0	52.7
THU. 12	W.S.W.	48.0	47.1	53.3	42.3	0.0	14.9	45.0	52.2
FRI. 13	W.S.W.	51.7	51.2	53.8	48.1	0.1	14.9	50.5	52.3
SAT. 14	S.E.	51.7	50.6	5.2	8.2	0.0	15.0	50.2	52.3
MEANS	...	49.5	48.1	54.1	41.8	0.2	14.8	45.2	52.4

Remarks.—Damp, misty weather has been the feature of the past week, with small quantities of rain on six days.

THE WEATHER IN WEST HERTS.

THE last two days have been moderately cold; but should this cold weather not continue, the warm period which set in nearly nine weeks ago may be said to still hold. On four days during the past week the highest temperature in the thermometer screen exceeded 51°, and on two nights the exposed thermometer never fell lower than 46°. On the coldest night the same thermometer at no time registered more than 4° of frost. The ground has become colder the last two days, and is at the present time at about an average temperature at 2 feet deep, but 2° colder than is seasonable at 1 foot deep. Rain fell on four days during the week, but the amounts were insignificant; in fact, the total fall since the month began is less than half an inch, or only about a third of the usual quantity for the first half of November. Although three consecutive days during the week were altogether sunless, the mean daily record for the week was slightly in excess of the average. The winds were, as a rule, of about seasonable strength. The amount of moisture in the air at 3 o'clock in the afternoon was 1 per cent. in excess of the November mean. *E. M., Berkhamsted, November 17, 1903.*

MARKETS.

COVENT GARDEN, November 19.

CUT FLOWERS, &c.: AVERAGE WHOLESALE PRICES.				
	s.d.	s.d.	s.d. s.d.	
Arbutus, bunch	0 6	—	Mignonette, per dozen ...	2 0-3 0
Bouvardias, per bunch ...	0 3-0 6	—	Mimosa (Acacia), per doz. bunch	6 0-9 0
Callas, per dozen	3 0-4 0	—	Narcissus, dozen bunches ...	3 0-4 0
Carnations, bunch	0 6-3 0	—	Orchids: Cattleya, dozen blooms...	6 0-12 0
Chrysanthemums, doz. bunches	2 0-6 0	—	— Odontoglossums, dozen blooms ...	1 6-2 6
— specimen blooms, doz.	0 9-2 0	—	— Cypripedium insigne, dz.	1 0-2 0
Eucharis, per doz.	3 0-4 0	—	Pelargoniums, zonal, dozen bunches ...	3 0-4 0
Ferns, Asparagus, per bunch ...	1 0-2 6	—	Poinsettias, bunch	0 10-1 0
— French, per doz. bunches	0 4-0 6	—	Roman Hyacinths, per bunch ...	0 6-1 0
— Maidenhair, doz. bunches	4 0-6 0	—	Roses, Mermat, per doz. ...	2 0-4 0
Gardenias, box	1 0-1 6	—	— various, bun.	0 6-1 6
Honesty (seed vessels), bunch	1 0-3 0	—	— white, bunch	1 6-2 0
Lilac (French), per bunch ...	5 0 —	—	— pink, bunch	1 0-2 0
Lilium, longiflorum, er bunch...	2 0-4 0	—	Smilax, per doz. trails ...	1 0-1 6
— lancifolium, per bunch ...	1 6-3 0	—	Stephanotis, doz.	1 6-3 0
— auratum, per bunch ...	1 0-2 0	—	Tuberose, strong, per bunch ...	0 9-1 0
Lily of the Valley, p. doz. bunches	6 0-12 0	—	— per dozen	0 2-0 3
Marguerites, yellow, doz. bunch.	1 0-2 0	—	Violets, doz. bun.	1 0-1 6
			— Parma, bunch	1 0-2 0

PLANTS IN POTS, &c.: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Adiantums, per dozen	4 0-8 0	—	Ferns in var., per dozen	4 0-30 0	—
Aralias, per doz.	4 0-8 0	—	Ficus elastica, per dozen	9 0-24 0	—
Arbor Vitæ, doz.	9 0-18 0	—	Lilium longiflorum, per doz.	6 0-12 0	—
Aspidistras, doz.	18 0-36 0	—	— lancifolium, per dozen	6 0-12 0	—
Aucubas, per doz.	4 0-8 0	—	Lycopodium, p. dozen	3 0-4 0	—
Begonia, per doz.	8 0-18 0	—	Marguerites, doz.	6 0-12 0	—
— Gloire de Lorraine, per doz.	8 0-24 0	—	Orange-trees, each	3 6-10 6	—
Chrysanthemum, per dozen	3 0-30 0	—	Palms, var., each	3 0-20 0	—
Coleuses, per doz.	4 0-5 0	—	Poinsettias, doz.	10 0-12 0	—
Crotons, per doz.	12 0-21 0	—	Primulas, per doz.	4 0 —	—
Cyclamens, doz.	10 6-12 0	—	Pieris tremula, dozen	4 0-8 0	—
Cyperus, per doz.	3 0-4 0	—	— Wimssetti, doz.	4 0-8 0	—
Dracenas, variety, dozen	12 0-48 0	—	— major, dozen	4 0-6 0	—
Ericas, per dozen	8 0-12 0	—	Solanums, dozen	4 0-6 0	—
Euonymus, vars., per dozen	4 0-6 0	—			

VEGETABLES: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per dozen	2 0-2 6	—	Mushrooms, house, per lb.	0 10 —	—
— Jerusalem, p. sieve	1 6-2 0	—	Onions, per case	5 0-5 6	—
Asparagus, Spruce, bundle	1 0-1 1	—	— per bag	4 0-5 0	—
— Paris Green	4 0-5 6	—	— picklers, per sieve	2 6-4 0	—
Beans, dwarf, lb.	0 8-0 10	—	— English, per cwt.	5 0-5 6	—
— Madeira, per basket	1 6-2 0	—	Parsley, per doz. bunches	1 0-1 6	—
Beetroot, bushel	1 6-2 0	—	— sieve	0 6-1 0	—
Brussels Sprouts, per sieve	1 3 1 9	—	Parsnips, per bag	2 0-2 6	—
Cabbages, tally	2 0-3 6	—	Potatoes, per ton	75 0-130 0	—
Carrots, per doz. bunches	1 3-2 0	—	Radishes, per dozen bunches	0 9 —	—
— per bag	2 6-3 6	—	Sa'ad, small, punnets, per doz.	0 9-1 0	—
Cauliflowers, per dozen	1 0-2 0	—	Seakale, per doz.	16 0-21 0	—
Celery, doz. bun.	8 0-12 0	—	Shallots, lb.	0 13-0 2	—
Cress, doz. pun.	0 9-1 0	—	Spinach, p. bush.	3 0 —	—
Cucumbers, doz.	2 6-4 6	—	Tomatoes, Channel Islands, per lb.	0 3 —	—
Endive, per doz.	1 0 —	—	— Canary Deepes	3 0-5 6	—
Garlic, per lb.	0 2-0 3	—	— English, per 12 lb.	3 0-5 6	—
Horseradish, foreign, p. bunch	1 3-1 6	—	Turnips, per doz. bunches	1 0-1 6	—
Leeks, per dozen bunches	1 0-1 6	—	— per bag	2 0-2 6	—
Lettuces, Cabbage, per dozen	1 0 —	—	Watercress, per dozen bunches	0 4-0 6	—

FRUIT: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, home-grown, cookers, per bushel	3 0-10 0	—	Grapes, in barrel	10 0-18 0	—
— per half bushel	2 0-5 0	—	— Gros Maroc, per lb.	1 0 —	—
barrel	12 0-18 0	—	— Muscats, A., per lb.	3 0-4 0	—
— American, in cases	8 0-10 0	—	— B., per lb.	0 9-1 6	—
Bananas, bunch	7 0-12 0	—	— Canon Hall, A., per lb.	3 0-5 0	—
— loose, dozen	1 0-1 6	—	— B., per lb.	1 6-2 6	—
Blackberries, per peck	2 6 —	—	Lemons, per case	16 0-20 0	—
Chestnuts, bag	6 9-14 0	—	— Lechees, box	1 2 —	—
Cobnuts, per lb.	0 73-0 8	—	— Melons, each	1 0-3 0	—
Cranberries, per case	15 0 —	—	Oranges, per case	4 6-13 0	—
Figs, per box	0 10-1 0	—	Pears, per case	8 0-15 0	—
Grapes, Alicante, per lb.	0 7-1 3	—	— stewing	6 0 —	—
			Pines, each	1 6-4 0	—
			Walnuts, Greenoble, bag	5 6 —	—

REMARKS.—Spinach has improved in price, but other productions are as last week; Salsify is per doz. 3s.; Blackberries are practically over, only a few coming to hand. Some excellent French Onions have arrived, as was the case at the corresponding date last year. Brussels Sprouts are fetching 9d. to 1s. per sieve; Cobnuts were per lb. 4d.; and Pineapples were low in price.

POTATOS.

Home-grown, 75s. to 110s. per ton; foreign, 65s. to 95s. do.; Dunbars, 120s. to 130s. do. John Bath, 32 & 34, Wellington Street, Covent Garden.

ANSWERS TO CORRESPONDENTS.

APPLE-PIPS: G. W. Sow at the present time in pans or boxes filled with sandy loam, and keep merely moist in a cold pit, protecting them from mice and rats. When germinated in the spring stand them out-of-doors.

AZALEA INDICA FLOWERING AT THIS SEASON: J. P. Ordinarily Azalea indica, when not forced, flowers in April and later, although the fact that plants which are forced into growth after having flowered early the previous year will put forth flowers at an early part of the spring is well known. The weather has been greatly against the early ripening of the wood and formation of flower-buds, more especially on plants put out-of-doors when their growth had been made. The applications of Peruvian Guano may have been the cause, as you suggest.

BEGONIA PACKED IN A CIGAR-BOX. The plant, apparently one of B. Gloire de Lorraine, has

become stunted and almost flowerless by having been grown too cool and moist. There is no disease, fungus or insect observed on the leaves, &c.

BOOK OR TABLE DECORATIONS: *W. B.* None obtainable, excepting at the old book-shops.

BORDEAUX-MIXTURE: *J. N.* For obvious reasons we decline, unless there is some special reason to the contrary, to mention the name of dealers, "even though they be advertisers"; but as this seems to be a special case we may tell you that the Executors of Robert Campbell, Water Street, Manchester, supply Bordeaux-mixture in 15 lb. parcels. You should refer to them.

BOX-EDGING FLOWERING: *W. B.* Not unusual when aged.

CALADIUM FROM CEYLON: *Caladium.* We cannot name from blade of leaf only, and that with nearly the whole of the colouring matter disappeared. All that we can say is that it resembles *C. argyrites*, as you suggest.

CARNATION LEAVES DISEASED: *P. W.* The roots are infested with eelworms, for which malady there is no cure short of pulling up the plants and burning them forthwith, and not planting on the same soil for some years.

CARNATION PLANT DISEASED: *H. T.* The plant is attacked by the so-called Rust, often mentioned in these columns. There is no known cure, and your best course is carefully to take up the roots and burn the whole plant forthwith.

CARNATIONS GOING OFF IN A WHOLESALE MANNER: *Paper.* We cannot tell you the cause unless specimens be sent.

CATERPILLAR: *X. F. Z.* *Zeuzera asculi*—very destructive.

CHRYSANTHEMUM: *F. H.* We cannot undertake to name varieties of florists' flowers.

CORRECTION: *Lady Plowden.* We regret to have omitted, quite inadvertently, from the report the fact that Mr. Clarke was awarded a Silver Banksian Medal for his exhibit at the last Drill Hall meeting. The notice of the exhibit came under the sub-section "Chrysanthemums," as being the more appropriate. No question of unfairness could arise.

CORRECTION: GROUP OF GOURDS AT ROYAL HORTICULTURAL SOCIETY'S MEETING, NOVEMBER 10. Owing to some mistake by the gardener, his name got inserted on the ticket as the exhibitor, instead of that of his employer, G. Ferguson, Esq., The Hollies, Weybridge.

CREEPERS ON A NORTH WALL WITH BUILDINGS NEAR: *T. Hines.* *Aristolochia Sipho*, *Ampelopsis Veitchii*, Irish palmate green or variegated, or Regner's Ivies. No flowering plants are calculated to produce flowers in such a position and aspect, and the most that you can hope for is plenty of healthy foliage.

DATURA & BRUGMANSIA: *A. A.* The latter name is kept up only for two or three unimportant species, the rest of the species being included in *Datura*, the prior name, and among them *D. suaveolens*; vide *Index Kewensis*.

DENDROBIUM LEAVES INJURED: *T. R.* The leaves show that the plants are suffering from "spot," as it is often called. The cause is difficult to suggest unless by an examination of the house, and the manner in which the plants are grown. In Dendrobies it often appears on plants which are kept in too high a temperature after the growths are completed, and especially on the evergreen species, which are very often kept in a high temperature after the deciduous ones, which show by their decaying leaves that resting-time has arrived, have been removed. The evergreen species also require a rest, and if it be not given "spot" often results.

FIG: Grub. The Fig-tree has the fungus disease (*Cercospora Bolleana*), figured in the *Gardeners' Chronicle*, July 7, 1900, p. 5.

FLORIST: *R. F. G.* Continue to advertise, and to scan our advertisement columns; or come up to town for a day or two and look round among the best West End, City, and Covent Garden Market florists. We are unable to recommend employers.

GAS-LIME AND SULPHATE OF AMMONIA: *C. F.* The gas-lime is what is required for killing or

driving away the snake millipedes, and when used at the rate of 2 quarts per yard and weathered for three or more months, it may be dug-in, and it will then act on the subsequent crops as a fertiliser. Sulphate of ammonia is a bye-product of gas-making, and consists of carbonate of lime and ammonia sulphate, obtained in cleansing the gas. It is not dear at the rate of 14s. per cwt., 2 oz. per square yard per time being as large an amount as may be used. It is a powerful manure, and too expensive to be used against millipedes.

GREENHOUSE WITH A VERY DAMP BACK WALL: *Damp Course.* We would suggest covering the wall with Portland Cement, from the foundation upwards, or under-pinning and putting in a damp course of slates and gas tar.

LAVENDER; Amateur, Scarborough. It is now too late to put in cuttings this year. At the end of March place a handlight, cloche, or a little box fitted with a close glass top; into this put in some coarse brick-dust 3 inches deep, having excavated the interior 9 inches deep; over this place a layer of moss or Cocoa-nut fibre refuse, then fill up with sandy loam, and cover with a layer of clean sand; apply water, and leave it to settle. Obtain cuttings, or, better still, short slips with a heel to each and about 4 inches



FIG. 143.—MALFORMATION IN PEAR.

long; strip off the leaves with a pair of scissors, nip off the tops, and dibble them into the sand at an inch apart; apply water lightly, and in about an hour put on the glass top. Keep close, but afford air when it is noticed that the air is too full of humidity, leaving off the glass on a dry day for half an hour. When the sand-bed is getting dry apply water with a rose-can. In two months the slips will be rooted, and should be afforded plenty of air. Plant out in a nursery bed in May, and grow them there for a year or two. In order to save trouble in shading, strike the cuttings in an eastern aspect.

MAKING A DUTCH GARDEN: *Enquirer.* That which we understand by the term "a Dutch garden" is the style introduced from Holland 200 years ago—not the Dutch garden of to-day. The beds were formed on the level, or below it (panels), and on sloping banks. Usually the beds were edged with Box, which was allowed to grow a foot in height, and these edgings were clipped with flat sides and top. Gravel of one or various colours, sand, &c., formed the paths. The beds were often of grotesque forms, or they were of geometrical shapes put together to form a harmonious whole. Box was much used in filling in the beds, and this was kept low, as low as the bordering of Box. Other plants might consist of Dutch bulbs of all kinds of low growth, and nowadays, when garden plants have so much increased in numbers, the choice is very extensive. Such a garden may be planted in early autumn with

bulbs and a variety of flowering plants of low growth and bright-coloured flowers. These again could be cleared out, and their places filled with summer flowers. The main idea is to have everything dwarf, and just visible above the Box edging. Such gardens do not harmonise with the free style of laying out a garden preferred at the present day, and are better if shut off by a formally-trimmed hedge of *Thuja siberica*, *Euonymus*, *Escallonia*, &c., or a shrubbery. Topiary-work goes well with this style of garden.

MANDEVILLA PODS: *Urbs intacta.* These productions have no commercial value.

MONSTROUS PEARS; *H. R.* Your fruit is an example of the condition shown in fig. 148. The edible portion of a Pear is not the fruit at all, but the dilated end of the flower-stalk, in which the true fruit or core is embedded. In these proliferous Pears, for some reason or other, the swollen branch, after temporary arrest, has started into growth and produced other swollen shoots, with leaves proceeding from them.

NAMES OF FRUIT: *H. T. B.* Monarch.—*T. T.*, Newcastle. 1, not recognised; 2, Reinette Franché; 3, Sweet Lading; 4, Brownlee's Russet; 5, Court of Wick, Pear Verulam.—*F. E. Clifford.* Hambledon deux Ans.—*Mrs. Roper.* Striped Beefing.—*P. H.* Chaumontel.—*A. J. C.* Evargil.—*H. Elliot.* 1, Stanstead Russet; 2, French Crab; 3, not recognised; 4, Ashmead's Kernel.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*G. S.* *Euonymus europæus*, Spindle-tree.—*E. L. H.* Yes, certainly, your Pine is the Mexican *P. Ayacahuite*. It is rare to see it in cone, though we have seen it at Cheshunt, and have very fine specimens from the Isle of Man.—*Sittington.* *Maxillaria picta*. It is singular in that the showy purple markings are on the outside of the flowers and not on the face.—*Cornubian.* *Maxillaria Camaridii* syn. *Camaridium ochroleucum*.—*V. M.* 1, *Ada aurantiaca*; 2, *Trichopilia (Pilumna fragrans)*; 3, *Odontoglossum constrictum*; 4, *Bulbophyllum striatum*.—*Contributor, Kerry.* 1, *Lastræa lepidæ*; 2, *Pteris tremula*; 3, *Polystichum angulare*; 4, *Lomaria spicant*; 5, *Adiantum hispidulum*.—*H. S.* One of the forms of *Begonia incarnata*.

POTATO: *Welwyn.* The tuber was introduced in 1585 or 1586 from Virginia, by Thomas Herriott, a companion of Sir W. Raleigh. Which of the six tuber-bearing species out of the 700 existing *Solanums* Herriott's Potato belonged to, we, at this time of day, have no means of knowing.

RYTON MUSCAT GRAPE: *G. S.* We know of no such variety, either at home or abroad.

SITUATION AS GARDENER: *T. Flanagan.* We believe that persons advertising for situations in the *Gardeners' Chronicle* generally meet with suitable situations, provided their testimonials are satisfactory.

SIX HARDY CLIMBERS: *J. E.* You could select from the following, viz.:—*Clematis montana*, *C. balearica* in variety (*calycina*), or any of the hybrids; *Jasminum officinalis*, *J. revolutum*, *Passiflora coerulea*, *Lonicera caprifolium*, *Tecoma radicans*, *Wistaria chinensis*.

"THE FLOWERS THEY LOVE": *B.* We thank you for the suggestion, but we do not think it a matter of interest to the public to know what particular people, who are not specially gardeners, happen to like in the way of flowers. Moreover, to publish such private details savours of impertinence.

TOMATOS: *P. C.* So far as can be ascertained by an examination of the leaves only, the injury appears to have been caused by the punctures of mites. If the fruits show evidences of disease you may send us some.

COMMUNICATIONS RECEIVED—Cooper, Taber & Co. (shortly)—*J. P.* Rendal (with thanks)—*F. W. B.*—*C. Pynaert*—*F. W. S.*—*A. R.* Langwith, Habana, Cuba.—*J. P.*—*J. H. W.*—*A. J. C.*—*E. K.*—*T. A.*—*A. M.*, Econe.—*W. S.*—*Sir Jas. Blyth*—*Attwood & Binsted, Ltd.*—*J. R. P.* & Sons—*R. E.*—*T. B.*—*F. J. G.*—*W. E.*—*T. W.*—*G. W.*—*C. T. D.*—*R. D.*—*A. C. B.*—*A. H.*—*W. C. L.*—*T. C.*—*E. C.*—*W. Peters*—*J. A.*—*H. W. W.*—*J. W.*—Constant Reader.



VIEW IN THE PARK OF THE LITTLE TRIANON, VERSAILLES.



THE

Gardeners' Chronicle

No. 883.—SATURDAY, November 28, 1903.

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KILLERTON.

THIS extensive and beautiful place, the Devonshire seat of Sir T. D. Acland, Bart., is situated about midway between Exeter and Tiverton, on the Great Western Railway, the nearest station being that of Silverton, from which it is distant a little over a mile.

The situation of the estate is in a district full of rural charms, surrounded by lovely near and distant views, extending on the one hand to the country about Sidmouth (twelve miles in a direct line), while further south the heights of Woodbury Common and Black Hill are prominent in the far distance, with Exmouth about fourteen miles as the crow flies, and more to the west Dartmoor; while away to the north-east the view stretches into Somersetshire, almost, if not quite, reaching Sir Thomas Acland's other estate in that county.

At the time of my visit, early in August, I had the good fortune to meet Sir Thomas, from whom I gathered the following facts regarding the early history of the mansion, which is a plain, capacious building, without any pretensions to architectural style. The estate came into the possession of the fifth Baronet (Sir Hugh Acland) by pur-

chase in 1672. A stone under a small bay window on the east side, of the house bears date 1680. The window above this probably in former days lighted a spiral staircase. The chief entrance was originally on the south front, but this has been thrown into the drawing-room and a new entrance made on the east side to which the carriage-drive has been diverted. The flower garden on the south front of the house is on a terrace raised some 2 feet from the level of the park, and from this terrace some of the finest and most extensive views of the surrounding country are to be obtained, while in the foreground is an open expanse of park with a splendid greensward, with clumps and belts of trees and single specimens standing out in fine relief. On the west side of the house stands a fine specimen of the North American Tulip-tree (*Liriodendron Tulipifera*), which is shown in the Supplementary Illustration (since the photograph was taken the tree has been sadly injured in the great gale of September 10, when it lost nearly half its branches), many other fine examples of which are to be seen in other parts of the grounds. These trees flower freely during the season.

The terrace flower garden in front of the house extends for some distance beyond the west wall. This garden is really a Rose garden. The Rose is a favourite flower of Lady Acland's, the beds are therefore planted with such varieties as *Gustave Nabonnand*, *Anna Olivier*, *Dr. Grill*, *Marie van Houtte*, &c., with an undergrowth of *Violas*, and the beds are edged with rough stones covered with mossy *Saxifragas*.

In this garden are placed two large vases of graceful design and surrounded by classic figures. The makers' name "Coade and Sealy, Lambeth, 1805," is very distinct upon each of them. As they were in a somewhat imperfect condition when Sir Thomas Acland came into possession of them, and as he was desirous of having them repaired by replacing such details as lost handles, &c., they were submitted to Messrs. Doulton & Co., of Lambeth, who valued them at a high price and undertook the work of reparation, at the same time acknowledging that the secret of the composition of which they were made is lost; and though they have now been repaired at the Lambeth potteries with very great care, the new work is of a creamy-white colour as compared with that of the original. The extreme hardness and smoothness of the cement, together with the sharpness of the figures, are very distinctive characters of these interesting vases, and Sir Thomas Acland is anxious to know whether others of a similar nature by the same makers are existing in any other garden. One of these vases is shown in the view of the house.

Extending for some distance from the west side of the house is a broad border of mixed flowering herbaceous plants, and though this border has not been formed more than two years it already contains some fine-grown specimens of *Salvia patens*, *Buddleia variabilis*, with its long spikes of pale blue or lilac flowers covering a bush some 4 feet high, and *Gaura Lindheimeri*, all of which are hardy here and flower freely. Fine masses of the brilliant red flowers of *Tropæolum speciosum*, spreading amongst other plants, give touches of brilliancy, mixing with surrounding shrubs, and forming

natural festoons of flowers. At the back of this broad border and running parallel with it, is a straight grass walk about 150 ft. long, on one side of which is planted a row of *Lavender* bushes, about 2 feet high, and very uniform growth, the long line of blue flowers having a fine effect, and imparting a delicious perfume. The spaces between the plants were occupied by *Lilies*.

Trained against the west side of the house is a very large and spreading *Judas-tree*, which was not in flower at the time of my visit; but it was described as being a very attractive object when in full bloom. On the wide and extensive lawn on this side of the house, jotted about in the soft velvet-like turf, of a bright-green colour and remarkably free from weeds, we noticed, among a heap of other interesting and well-grown plants, the following:—*Retinospora ericoides*, in its summer garb of bright glaucous-green, which in winter gives place to a rich purple; *Cistus ladaniferus*, with its sticky, gummy branches—one of the sources of the gum known as *Ladanum*—and the remains of what had been a magnificent show of flowers; *Abutilon vitifolium*, a bush of which, planted about three years ago, is now about 10 feet high, and flowers freely every spring. Here also is a fine well-grown tree, some 45 feet high, of *Thujopsis dolabrata*, which I understood was raised from cuttings of the original plant, companions of which are at *Dropmore* and at *Frogmore*. *Cordylina australis* is represented by several plants in different parts of the grounds, but two well-grown plants are noticeable here, both on account of their height, some 15 or 20 feet, and from the fact that the stems are completely hidden by a thick mass of the lower leaves, which in dying have dropped into a position parallel with the stems, but have remained attached. Here also among other things we noted fine healthy growths of *Comptonia asplenifolia*, *Hydrangea paniculata*, *Spiræa arifolia*, *Kalmia latifolia*, *Azalea pontica*, *Eucryphia pinnatifolia*, its splendid white flowers make it a most valuable flowering shrub. Here also is a fine Holly-like bush of *Desfontainea spinosa* covered with its beautiful, drooping, scarlet and orange-coloured flowers; and a big *Drimys aromatica*, forming a compact and attractive shrub by reason of the dark-red stems, which are brilliant in the sun. Close by is a shrub of the *Loquat* (*Eriobotrya japonica*), also *Halesia tetraptera*, and on the rising ground behind are groups of *Fox-gloves* and the yellow-flowered *Verbascum pannosum*, backed up on the still higher ground with *Libocedrus decurrens* (over 70 feet high), *Cupressus funebris* and *Abies cephalonica*. *John R. Jackson.*

(To be continued.)

THE ROSARY.

THE CULTIVATION OF ROSES ON LIGHT LAND BY THE AID OF LIQUID-MANURE.

It was at one time the belief of gardeners that *Roses* could not be grown of the best quality on soils other than heavy loams. Very few growers would nowadays go to the trouble and expense of incorporating heavy loam or clayey soil with the staple; yet this was once a common practice in many gardens. That *Rose* cultivation is far less troublesome on strong adhesive soils few will

dispute, but that the plants will produce blooms of the finest quality on the most diverse soils is now well known and acted upon.

Some of the finest flowers I have observed were cut from plants growing in a few inches of soil overlaying chalk. But mulching and liquid-manuring were in this instance carried to an extent that would be impossible for the cultivators of thousands of plants.

The Rose is a gross feeder, yet it has been amply demonstrated that it is possible to obtain fine flowers without the use of heavy dressings of farmyard-manure, as so frequently advised. Dressings of superphosphate and kainit, three parts of the former to one of the latter, applied after pruning in spring at the rate of 4 or 5 oz. per square yard, will impart vigour to the growth and beauty of the blossoms, and on poor land the application of 1 oz. of nitrate of soda per square yard will, after the plants have commenced growing, considerably enhance the effects of the superphosphate and kainit. That the mixture may be used with advantage twice or thrice during the growing season has been abundantly proved.

None of these fertilisers is expensive or troublesome in the application, either mixed together or alone. A simple and inexpensive method of imparting vigour to weak plants is to afford farmyard or stable-drawings, applying the liquid around the plants in the months of January or February. I mention this because some Roses belonging to a friend were in a miserably weak condition last season, and these plants have improved almost beyond recognition owing to the use of liquid-manure at the season named. Sometimes a liquid-manure is very strong and has to be used in a diluted state, and care is at all times requisite when applying it. J. W.

NEW HYBRID AMARYLLIDS.

HYMENOCALLIS ERNSTII.

(Concluded from p. 345.)

In April, 1901, I impregnated a polypetalled flower of *Hymenocallis filamentosa* (an ally or sub-species of *H. speciosa*) with the pollen of *Hymenocallis Moritziana*. The fruit contained nine seeds, of which seven grew; and in February, 1903, the first one flowered, others in April and following months.

This interesting and very vigorous hybrid, fairly equipoised between either parent, was named after my friend, the late Dr. Ernst, of the University of Caracas, to whom, during my visit to Venezuela in 1894, I was indebted for assistance in obtaining the male parent of this hybrid. As in the case of my *Crinum* hy. *amanteum*, it was the male parent whose characteristics governed the foliage, and the female the inflorescence. I do not consider that *Hymenocallis Ernstii* is superior in beauty to either parent, but it possesses a robustness greater than either, and flowers freely.

DESCRIPTION.

Bulb.—Proliferous, with a distinct neck 2 inches long, formed by the bases of the enveloping leaf-stems.

Leaves.—Not so strictly distichous as those of the male parent, and of a light yellowish-green colour. About ten in number (eight fully grown). Blade 8 to 14 inches long by 4 to 5 inches wide.

Leaf-stems.—Deeply channelled, under a foot long by $\frac{3}{8}$ to $\frac{1}{2}$ inch wide adjoining the blade.

Scape.—Central, glaucous, sharply two-edged, carrying an umbel of three to eight sessile flowers well above the foliage. Over-all height $1\frac{1}{2}$ to 2 feet. Span of inflorescence 1 foot.

Spathes.—Deciduous.

Flowers.—Yellowish in the bud but white when open, which occurs in succession. Very close to *H. Moritziana* (in *Gardeners' Chronicle*, February 10, 1900, which figure was made in this garden from the identical plant used as male

parent), but the cup in *H. Ernstii* appears larger and more protruded, and the segments more drooping towards their apices, and somewhat twisted spirally. Span of flower 5 to 6 ins.

Tube.—Bright deep green, radiating (rarely erect or ascending), 4 inches long.

Segments.—Reflexed, twisted, drooping, the outer three slightly narrower, 4 inches long (or less) by $\frac{1}{4}$ inch maximum width.

Cup.—Funnel-shaped, regularly one-toothed, 1 inch (or less) wide and high.

Stamens.—Bright green above, white below. Free ends $1\frac{3}{4}$ inch long.

Pollen.—Orange.

Style.—Projected horizontally, as long as the segments.

Stigma.—Capitate.

Nectary.—Full to overflowing of sweet liquid.

Ovules.—In some cases normal, in others two to four in an erect bunch from the centre of the placenta.

NOTE.—It is interesting to consider what was gained by selecting a 12-segmental flower to pollinate. Firstly, I obtained seven virile seeds against an average of less than two in each of six fruits belonging to the parent species in previous cases. Secondly, I have obtained a multi-ovular offspring, which, if not sterile, will probably in turn carry more than the normal amount of seeds. Thirdly, extraordinary precocity. My hybrid flowered in eighteen months from the date of germination, in comparison with about fifty months in previous cases in this genus. A. Worsley, Isleworth, November, 1903.

HOW TO ERADICATE MEALY-BUG (COCCUS ADONIDUM).

A LINE or two on the best means to employ to eradicate this very objectionable-looking creature and one most difficult pest to dislodge, once it has established itself on Vines or other fruit-trees growing under glass, will now be opportune, as the time for preparing Vines and vineries for producing next year's crop is close at hand.

The first step to be taken with a view of ridding their Vines and vineries of the dreaded pest is, as soon as the Vines are pruned, to rub off all loose bark from the individual rods (especially about the spurs) with the hands; then thoroughly to wash the woodwork and glass, as well as the ironwork, including hot-water pipes and trellis, with a solution consisting of half a pound of soft-soap dissolved in a gallon of boiling water and two wineglassfuls of petroleum, the mixture being frequently stirred in the process of washing to keep the petroleum well mixed with the soapy-water. Any brick-and-plaster work in the vinery should also be well washed with the same mixture, applying the emulsion as hot as possible with an ordinary garden syringe with force into any nooks and crannies between the brickwork and wall-plants, or in the plaster-work, which cannot be effectively reached with the ordinary scrubbing-brush. The brickwork should be washed thoroughly with hot liquid lime preparatory to re-pointing the joints and making good brick and plaster work where necessary with compo. consisting of two parts sharp-sand and one of cement. This done, the Vines should be well washed with the composition indicated, but reduced in strength to the extent of 4 oz. soft-soap and one measure of petroleum to the gallon of water. The Vines should also be painted over with a stiffish paint-brush, dabbing the emulsion into every crack and fissure about the spurs, being particular thoroughly to wash every particle of the individual rods, but taking care not to damage the buds or "eyes."

The next step to be taken in the process of exterminating the enemy is to paint the Vines with a mixture of coal-tar and clay, using one

part of the former to nine parts of the latter. The clay should be dried and powdered, so that it may be passed through a fine sieve. Then measure the clay into a vessel (a large flower-pot with a lump of stiff clay put into the hole in the bottom will answer the purpose), using a 3-inch or 6-inch flower-pot, according to the number of Vines to be dressed, as a measure, and putting the allowance of coal-tar into the vessel after the specified quantity of clay has been deposited therein. Then work the mixture well together with the hands, and afterwards add sufficient boiling water to give it the consistency of stiffish paint. Apply the mixture with a stubby paint-brush to every portion of the affected Vines, being especially careful that every nook and cranny about the spurs are smeared over with the mixture, the latter being kept well stirred in the meantime. Afterwards suspend the Vines loosely to the wires, after the wood and iron-work has been given one or two good coats of white or stone-coloured paint. Then, as a finishing touch, remove the surface-soil from the Vine-border to the depth of 6 or 7 inches (treating the brickwork thus exposed to view as advised above); Burn the soil, replacing it with a like quantity of the best loam obtainable, and add to every cartload of loam one barrowful of horse-droppings and one of old mortar-rubble or wood-ashes, the whole being turned over once before being wheeled on to the Vine-border, following this with a surface-dressing of horse-droppings to the depth of 2 or 3 inches; afterwards keeping the vinery so treated cool, and allowing the Vines to break of their own accord—that is, to push into growth naturally in early spring. If the treatment described above be carried out in every detail the remedy will be complete, and prove to be as effective as it is simple. H. W. W.

FORESTRY.

TREE-GROWTH ON THE CHALK DOWNS.

Few greater contrasts exist in English landscape than those found between the chalk downs of the South of England and the fertile vales of the older geological formations which adjoin and in some parts intersect them. This contrast is especially marked on the northern edge of the chalk country, where the narrow strips of greensward which crop out in an almost unbroken line from beneath it, is quickly replaced by the heavier soils of the greensand or similar formations. The reason for such a marked difference in the scenery of the chalk districts from that of many other formations is quickly discovered by an observing traveller. The latter is largely made up of trees and hedges, and the former practically possesses neither of them. It would not be far from the truth to say that within the last thirty or forty years the down districts were one unbroken stretch of unfenced and treeless country. Every village and every farmhouse had its trees and enclosures, but these were merely oases in the desert, and afforded little relief to the monotonous aspect which is presented to the traveller after the first burst of enthusiasm which a new country temporarily evokes has died out. Such districts have pleasing characteristics of their own it is true, and the patchwork tints of various crops on the cultivated portions please the eye to which they are still a novelty. But such attractions are very small compared with those afforded by a thickly wooded country, in which samples of natural landscape gardening are met with at every turn.

The question must often have occurred to those interested in forestry matters—Is the comparatively treeless condition of the downs due to accident, design, or natural causes? As regards accident, we have to take into consideration the fact that these districts at one time occupied

much the same position in the national or industrial economy of England as the Black Country does at the present day. When flocks and corn constituted the principal basis of national wealth the ancient Briton seems to have selected the downs as the most suitable country for agricultural purposes. The natural herbage was grass instead of heather; the soil required no draining, and we may assume that it was destitute of that dense mass of forest-growth which covered the heavy soils of the lowlands until comparatively recent times. Rocky districts the early agriculturist could not cultivate; gravel or sands were too poor, and grew heather instead of grass; while the rich loams and clays we now value so highly were then covered with a tangle of forest, and useless for cultivation for want of drains. The thin but fertile loam of the downs, free from large stones, and equally adapted for agriculture or grazing, would naturally be selected in preference to any other soils which required more skill and labour to turn to account, while the facilities they offered for purposes of defence were not lost sight of by warlike tribes. In such circumstances, it is not unreasonable to assume that an accidental combination of conditions favourable to early grazing and cultivation resulted in the downs being the first portions of the country to become thickly populated, and to be devoted to agriculture. Whatever forest vegetation existed upon them would then gradually disappear, and fresh growth would be out of the question on ground continuously grazed.

That the downs are treeless through any definite design of early or modern men, we have no reason to suppose. The human race generally treats trees with indifference. Where they already exist they are allowed to remain, unless some special reason is found for their removal. Where they do not exist no effort is made to produce them, except by that small circle of arboriculturists which the last two or three centuries have brought into existence.

When we come to deal with the effect of natural causes, we have to face a combination of facts and theories over which it is difficult to pick one's way without stumbling. We have the facts in the few trees which exist to-day, the majority of which are of artificial origin. The summits of many chalk hills and ridges show excrescences which, at a distance, the eye of the inexperienced might take for anything between a haystack or a block of buildings. Closer inspection proves them to be clumps of trees, and in most cases consisting of Beech or Scots Fir. The planters of these clumps evidently intended to improve the landscape, on the same principle as the builders of towers and monuments on similar heights adopted, viz., that of going to the maximum of trouble and expense to produce an object which none could admire or make use of. These clumps have, however, served one good purpose; and by demonstrating the fact that such situations will only produce dwarfed and stunted crops of trees, have saved landowners from throwing money away in extensive planting operations on surrounding land. An examination of these clumps will convince any practical forester that trees will exist on bare chalk, but that they will not grow at a rate which will repay the cost of fencing and planting with interest. The production of a crop of poles containing about 1,000 feet of timber per acre, and worth, at an expert's valuation, about £40 in eighty or one hundred years, is not a result which appeals strongly to the landowner's pocket. We know a small clump of Beech growing on pure chalk, and not particularly exposed, which has produced trees with an average diameter, 5 feet up, of about 5 inches in forty-five years. Such examples of both Beech and Scots Fir are not uncommon on bare chalk, and if it will not pay to grow these

species, it is doubtful if it will pay to grow any. Corsican Pine will grow perhaps faster than Scots Fir for a time, but for how long remains to be seen. Austrian Pine grows better than either, but is practically useless for timber. Larch will grow into sheep-stakes or hop-poles, and then stops, while the heart is affected with rot. In fact, the great feature with all of them is their slow growth after the first twenty years or so, unless they happen to stand on those small patches of better land which occur here and there on all down land.

No doubt more than one reason exists for the small size and slow growth of trees in the chalk downs, but the principal ones are the chemical and mechanical nature of the chalk rock or sub-soil, and the exposure to which the trees are subjected. The surface of the down land, consisting of thin turf and loam below it, is all right so far as it goes, which is about six inches; but below this surface lies the more or less solid chalk, consisting, as everyone knows, of almost pure carbonate of lime. To the majority of trees and plants generally, this substance is not an attractive food, being deficient in the three most important elements upon which plant growth depends. But in addition to this defect, its mechanical condition is usually unfavourable to the free passage of roots. Close in texture and practically free from those open joints, cracks, and beds into which many harder rocks are split up near the surface, chalk offers little inducement to tree roots to enter it, and little food to nourish them if they did. Trees planted on it consequently turn their attention first to the loam which lies on the surface, and when they have exhausted that, mark time for the remainder of their existence.

Exposure to every wind that blows is also another hindrance to growth, especially in small clumps. The highest chalk hill in England is not more than 1,000 feet above sea level, an altitude which ought not to affect the growth of hardy trees to any great extent. But the height of the hills and ridges above the surrounding ground exposes them to the full force of any wind, and this renders rough or harsh winds more injurious than they would be to trees standing on higher ground, but sheltered by still higher land above it.

It is possible, of course, to find considerable areas on the chalk which will grow timber as well as any soil, and produce profitable plantations. But such areas are rarely found on typical down land, but on the soils which cover the pure chalk to a depth of 2 or 3 feet, and occupy the valleys and lower slopes of the hills. But even in these days of agricultural depression the land in the valleys is usually too good to plant extensively, and is invariably wanted to level up the rent of the poorer land above. The owner of chalk downland usually prefers an average rent of 5s. per acre, which, in many cases, does little more than pay the tithe, to spending money in planting it on a large scale for his successors. What little planting is done has either ornament or shelter in view. The latter is usually effected by belts round the farm buildings, or strips along the exposed parts. When once established these are allowed to stand until they blow down. Purely ornamental plantations are few and far between, probably because they are difficult to form on a small, and are too expensive on a large scale. The absurd appearance of the older specimens has demonstrated the futility of attempting to improve the landscape by small circular clumps on the tops of the highest hills; and the tendency of late years has been to plant the sides of the hills, or the "coombes" with which they are scored, and to give the plantations more irregular shapes. Probably the facilities they offer for the nesting of partridges or for the shelter of

hares have led to the formation of most of them; and if they serve that purpose their planters are satisfied. But it is very doubtful if the day will ever come which will see the downs as richly clothed with wood as the land which surrounds them, although it is quite possible that they were fairly well wooded in prehistoric times, as the remains of natural forests exist to this day where the soil has lent its aid in retaining them. A. C. Forbes.

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT SOUTHGATE.

At Southgate House, the residence of C. H. Feiling, Esq., the houses have a fine show of Orchids, especially of *Cattleya labiata*, one side of the main *Cattleya*-house consisting of a mass of bloom from end to end. The plants are all well-grown and profusely flowered, many of the larger specimens possessing from twelve to seventeen blooms each. With them were *Lælio-Cattleya* × *Pisandra*, *Cattleya* × *Portia*, *C.* × *Mantini*, and other hybrids in flower, and on a shelf a number of well-grown *Calanthes*, suspended overhead being a good number of forms of *Lælia anceps* with flower-spikes. The *Cattleyas*, *Lælias*, and *Cypripediums* thrive in a satisfactory manner under the care of Mr. Stocking, the gardener, who is also engaged in carrying out some experiments in hybridisation.

In the *Cypripedium*-houses a number of varieties of *C. insigne* were in bloom, including that best-of-all yellow form *C. i. Sanderae*. Among those noted in bloom were *C.* × *Mme. de Curte*, a very fine flower. Among the many specimens of *C. Spicerianum*, two distinct forms, the one named *roseum*, and the other having yellow sepals and petals; *C.* × *Ledouxia*, *C.* × *triumphans superbum*, *C.* × *Leeanum giganteum*, Ball's variety, and other fine forms of *C. Leeanum*, *C.* × *Adonis*, *C.* × *Constance*, *C.* × *Prospero*, *C.* × *Arcturus*, *C. insigne*, *Harefield Hall*, *C.* × *Euryada*, *C.* × *Pallas*, *C.* × *Bruno*, and a number of hybrids flowering for the first time. *Lælia pumila* varieties were suspended overhead. Other *Cypripediums* were in a heated frame, and the bulk of the stock of *C. insigne* in an ordinary greenhouse, on one side of which were numbers of plants of *Oncidium tigrinum*, *O. Forbesii*, *Lælia autumnalis*, &c., in bloom.

The *Odontoglossums* are in vigorous condition, but only a few of them were in flower. In a lean-to house they occupy the front stage, a collection of good *Cymbidiums* being placed behind them, the wall being partly covered with *Senecio macroglossus*, a plant not often seen in an Orchid-house. It grows most luxuriantly, clothing the wall like Ivy, but does not produce its yellow flowers so freely as in a drier house.

The collection of *Dendrobiums* which made such a fine show earlier in the year has now a number of the favourite *Dendrobium Phalænopsis Schroderianum*, and a few *D. formosum giganteum* in bloom, the former having among them a nice plant of the pure white *D. Phalænopsis hololeucum*, which has not flowered this year.

THE GRANGE, SOUTHGATE.

At this place, owned by John Bradshaw, Esq. (gr., Mr. Whitelegge), is a collection famous for its white forms of *Cattleya labiata*; and here are remarkably well-grown *Odontoglossums*, and a large number of rare species. The fine specimens of *Cattleya labiata* exhibit much variation in colour and some differences in form, one very handsome dark-coloured variety having an elongated, frilled dark purple lip, which gives the flower much the same appearance as a *Lælio-Cattleya* × *Pallas*. The best of the white varieties are *C. l. alba*, a very pure white; *C. l. Amesiana*, white with pink labellum; and *C. l.*

G. G. Whitelegge, a clear white with a fine purple blotch on the lip. Among the light-coloured varieties, *C. l. glauca*, white tinged with

W. Whiteley, *C. × Lord Rothschild*, &c. Suspended from the roof is a good collection of *Lælio-Cattleyas*, *Cattleyas*, &c., and at one end a good

few were still in bloom, and two of them, viz., *L. Skinneri Enchantress* and *L. × hybrida* being handsome varieties. The *Cymbidiums* occupy



FIG. 149.—*BEGONIA LACINIATA* (BOWRINGIANA), PARENT OF THOSE SHOWN ON P. 369. (SEE P. 372.)

lavender and with a slate-blue lip, is very conspicuous. Other attractive plants were fine specimens of *Cattleya × Mantini nobilior*, and smaller ones of *C. × J. Bagaley*, *C. × Mrs. J.*

group of the yellow *Oncidium varicosum*, *O. Marshallianum*, and *O. Forbesii*.

In an intermediate-house are *Lycastes*, which also form a special feature of the collection, and a

the centre of the house. *Odontoglossums* are grown at their best, and many examples are to be found of the benefits arising from dividing the plants given some time ago in the *Gardeners'*



FIG. 150.—TWO NEW "FOLIAGE" BEGONIAS. (SEE P. 372.)

Chronicle. By following that advice most of the finest *Odontoglossums* in the collection have been propagated, the best example probably being the fine *Odontoglossum* × *Bradshaw* (*Harryanum* × *Andersonianum*), for which Mr. Bradshaw received a First-class Certificate at the Royal Horticultural Society this year. After flowering had ceased the rhizomes were severed in two places, and now the plant has three strong breaks, and is on the road to forming three separate plants. All the best varieties are being multiplied in this manner. When the plants are vigorously grown, as they are at The Grange, there is no risk in dividing them.

A small, low span-roofed house is used for raising hybrid Orchids, and young plants of many promising crosses are there in various stages. In raising the seedlings but little difficulty is found, although, as in other places, a large proportion of those which come up do not reach maturity.

AN INSPECTION OF ORCHIDS AT WILLOW WOOD.

By the kindness of Drewett O. Drewett, Esq., of Willow Wood, Riding-Mill-on-Tyne, several of the gardeners in the district of Corbridge, Stocksfield, and Wylam, were invited to inspect, on Saturday, November 21, a fine display of *Cypripedium* insigne and other *Cypripediums* now in the above-mentioned gentleman's garden. The visitors (about twenty in number) were personally conducted by Mr. Drewett and his gardener, Mr. J. Renwick. The various distinctions and characteristics of the different species and hybrids were pointed out, and the instruction thus afforded was much appreciated by the visitors. After a walk through gardens, tea was served in the dining-room, the table being decorated principally with *Cypripedium* insigne. After justice had been done to the good things provided, Mr. Drewett drew attention to the many advantages derived from the cultivation of the cool-house section of *Cypripediums*, and urged those present to induce their employers to take up the cultivation of these species more generally. Mr. H. J. Chapman, gardener at Oakwood, and Mr. Cameron, of Bythorn, took part in the discussion. The visitors were highly delighted with what they saw, and their kind reception by Mr. Drewett. C.

THE CHINESE TULIP-TREE.*

In the *Gardeners' Chronicle*, 3rd series, vi. (1889), p. 718, I gave as full an account as materials permitted of the Chinese Tulip-tree, and came to the conclusion that it was not specifically different from the North American *L. Tulipifera*. I even went so far as to say that I could not differentiate it as a variety, chiefly owing to the fact that both the American and Chinese trees seemed to present the same degree and kind of variation in the leaves, and that the somewhat imperfect dried flowers appeared to differ only in size. Since that date the herbarium specimens at Kew have been richly supplemented both by Dr. A. Henry and Mr. E. H. Wilson, collector for Messrs. James Veitch & Sons; and I was induced, from some remarks by my friend, Mr. G. Nicholson, to re-examine all the specimens. This I have partially done, and I have discovered characters which I consider are of specific value. Dr. A. Henry, to whom I pointed them out, agrees with me. Indeed, he was previously of the opinion that they were specifically different, having seen both growing; but the differences are not so very obvious, and they are to some extent overshadowed by the great variability in the shape of the leaves of both species.

Long before the existence of a Tulip-tree in China was known or suspected, the names *heterophylla*, *integrifolia*, *obtusiloba*, *truncatifolia*, and

others, had been given to cultivated varieties of Tulip-tree. The names sufficiently indicate the kind of variation exhibited, and it is very great; but they have been generally accepted as varieties of *L. Tulipifera*, not as distinct species. As already stated, the Chinese Tulip-tree is also very variable in foliage, but the variation is upon lines not easily expressed in words, though, on the whole, different from those of the American species.

With regard to the differences between the two, the flowers of the Chinese species are invariably smaller, and the narrower petals are more spreading in the perfect stage, so that the shape of the flower is not that of a Tulip. Another obvious difference is in the pistil or column of carpels. In the American species the carpels are free from each other in a relatively early stage, and when ripe they have recurved, acute tips. In the Chinese species the carpels are so consolidated and agglutinated, until they are half-grown at least, as to have the appearance of a solid column, and the ripe carpels are obtuse.

I will not enter into further particulars here, but merely add that it is intended to figure and describe the species in detail in Hooker's *Icones Plantarum*. W. Botting Hemsley.

FOREIGN CORRESPONDENCE.

LINARIA CYMBALARIA IN SWITZERLAND.

In reference to *Linaria cymbalaria* var. *alba* I am sending you a few particulars. I have grown the plant a few years here at the botanic gardens from seeds obtained in the neighbourhood of Zurich from a plant of this variety growing wild on a wall. It always came true from seed, is pure white, but the leaves are quite green, and on our plants do not get that beautiful purple colour that the typical plant does, so that it is hardly worth growing except perhaps as a curiosity. I have met with it in several gardens; and Mr. Correvon, of Geneva, offers it in his catalogue, so that it is by no means a rarity. It is as easily grown as the common form; in fact, I had a great deal to do to get rid of it, as it sowed itself between some pot plants and proved somewhat troublesome. Henry Frank, Head Gardener, Botanic Gardens, Zurich, Switzerland.

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Richardias.—If the pots are well filled with roots let frequent applications of manure-water be made; and unless the spathes are required at a certain date do not subject the plants to much artificial heat, as to do so renders the former thin and of short duration. The night temperature should not exceed 45° to 50°. Aphids must be kept in check by fumigation, or the beauty of the spathes will be quickly spoiled. There can be no doubt of the earliness of the Godfreys *Richardia* over *R. æthiopica*, flowering as it does from early October onwards. Where a good stock of the lovely yellow *R. Elliottiana* exists, a few of the stronger rhizomes may be repotted and placed in a night temperature of 58° to 60°, and afforded but little water until growth has become active.

Begonias.—Those of the Gloire de Lorraine type make a bright display when arranged in a batch to themselves, weak soot-water (clarified) being afforded once a week. Maintain a dryish atmosphere, and do not allow the temperature to fall much below 60° during the night, or the colour of the flowers will get washy; and though the variety Mrs. N. de Rothschild has larger flowers they have not the brightness of the older variety, but the foliage keeps of a better tint. Such varieties as *B. socotrana*, John Heal, &c., being of herbaceous growth, require a fairly moist atmosphere and a light position during the next few months.

Coleus thyrsoides is a pretty flowering plant of recent introduction, the lovely bright blue spikes

showing to advantage on plants from 3 to 4 feet high, and these are now expanding and will continue till the spring if afforded the same treatment as *Begonia Gloire de Lorraine*. They are of use in indoors decorations, and last fairly well on being cut.

Epiphyllum truncatum.—Plants coming into bloom require to be kept dry overhead, and not afforded much water. A night temperature of 55° to 60° will keep them decorative subjects for some weeks longer. They make nice dinner-table plants when grown as small standards. The variety E. Gaertneri flowers in spring, and should be kept at rest for some time longer; the flowers are of a very bright scarlet.

Clivias.—Though these usually flower during spring, I have had several quite small plants in bloom of late. *Clivias*, if in bloom, will have to be kept rather moist at the root for the present, and the general stock of plants kept cool and comparatively dry at the root until February. Seedlings of less than two years old should be kept growing, and as the foliage is liable to get dirty or dusty, it should be carefully sponged with soapy water once or twice a year. The flowers come of a better colour when the plants are subjected to a slight degree of heat, and afforded weak liquid-manure occasionally; otherwise they thrive best in a temperature of 45° to 50°, with the usual advance by day.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Damping-down, Ventilating, and Affording Water.—With the lowered temperatures of the season the matters named above will need careful attention. I advise readers of this Calendar to turn to the Calendar for January of the present year, and closely to follow the directions there given.

Fogs.—The destruction of Orchid-flowers caused by fog at this season is well known to cultivators, and especially by those in smoky districts, and causes much disappointment to owners and their gardeners. In the rural districts away from manufacturing centres the ill-effects of fog are not much felt. Where fogs are dangerous to Orchids let the temperature be kept low and as regular as possible, all ventilators closed, and only as much moisture distributed about the house as will prevent the atmosphere from becoming parched, whilst application of water is best deferred till such time as the fogs clear away, after which, if the plants are left in a very dry condition and time permits, they should be sponged with soft water.

Vanda teres.—The past damp season has been unfavourable for this plant, and the growth is softer than usual. An examination reveals the end of the season of growth. Similar conditions and temperature to those previously advised for *Dendrobium Phalaenopsis* will be suitable for *Vanda teres* whilst at rest, overhead syringing being discontinued, and only as much water afforded at the roots as will prevent the stems shrivelling badly.

Cattleyas.—The display of flower in the Cattleya-house at the present time is the chief attraction. It is not so many years ago that gardeners had to depend almost entirely upon the species *C. labiata*, *C. Bowringiana*, *C. aurea*, *L. Perrinii*, &c., for late autumn and early winter display. Now, however, we have the handsome hybrids, as *C. Mantini*, *C. Mrs. W. H. Whiteley*, *C. Ariel*, *C. Portia*, *C. Iris*, *C. Wendlandiana*, and others too numerous to mention, affording a great variety of colour and form. All those above-mentioned are of much use to the cultivator who has to supply large numbers of choice cut flowers, more especially as most of them endure from three to six weeks after being severed from the plants—i.e., if the plants are afforded suitable treatment when in flower. Where the gardener has two Cattleya-houses at his command, one should be set apart for the resting and flowering plants, in which the conditions are cooler and drier than in the other, where the plants are still making growth.

Cutting the Flowers.—It sometimes happens that after a flower-spike is removed decay at the apex

* *Liriodendron chinensis*, Hemsl. (*L. Tulipifera*, Linn.) var. *chinensis*, Hemsl. in *Journ. Linn. Soc.*, xxiii., p. 25).

of a pseudo-bulb will set in, which may cause the loss of the pseudo-bulb, a mishap to which a plant growing in wet materials or in a house that is close and stuffy is more than usually liable. My method is to cut the flower-sheaths halfway through, sufficiently to sever the stem and allow the flower-spike to be easily drawn out from the top and the sheath to remain, into which a small quantity of powdered charcoal is placed, so as to dry up the moisture; and subsequently, when the conditions are favourable, the sheath may be removed, and the plant trimmed neatly and placed in resting-quarters, treating it as previously advised for Orchids at rest.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

The Morello Cherry.—The pruning and training of the wall trees should now be undertaken, the weather being mild and the work in consequence less disagreeable than when the days are frosty; it is also more rapidly finished off. If the summer pruning and stopping received proper attention, not much pruning will be called for at the present time. The Morello Cherry fruits on the shoots of the preceding year and on young spurs, therefore these shoots may be laid-in at about 3 inches apart; and where the large main branches radiate from the centre of the tree, a few shoots should be tied over the old wood, so that all parts of the tree may be clad with foliage. A Morello Cherry properly trained is a pleasant object in a garden, and one for the gardener to feel pride in. After the training of a tree is finished wash it with a solution of quassia-extract, using a powerful syringe or the garden engine, choosing a mild day for doing the work. The border will have been trampled hard and will need to be loosened with a fork, or better have the surface skimmed off 3 inches deep, replacing it with fresh loam and a sprinkle of lime-rubble. The soil in which Chrysanthemums have been growing is good for this purpose.

Strawberry Plantations.—An effort should now be made to rid the beds of surface weeds, the stronger being pulled up and taken to the smother-fire, and the spaces between the lines lightly pricked up with a fork. Then take advantage of a frosty morning to wheel on to the beds a dressing of farmyard manure. Plants which were planted last August should have the crowns freed from the soil drawn over them by constant hoeing and washed on to them by the rain. If the land is in good heart no manurial dressing will be needed by these young plantations. Ground that it is intended to plant next March should be trenched forthwith—a remark that applies more particularly to heavy soils. The young plants intended for this planting, if growing in pots, should be plunged in a bed of coal-ashes to the rims.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Broad Beans.—The practice of sowing seeds of Broad Beans during the autumn is not much followed nowadays, the results being scarcely ever commensurate with the labour incurred. It is better to sow in 8-inch pots five seeds, raising the plants in a cold pit or frame, and as soon as the seedlings appear affording abundance of air at all times, removing the lights entirely whenever the weather will permit, a strong, sturdy growth being the aim of the gardener. Treated in this manner, and planted-out in a warm, sheltered, sunny border early in the spring, the produce is more abundant and earlier than from sowings made in the open border. The long-podded Beans are the best for present sowing.

Horseradish.—Let a part of the bed of Horseradish be lifted yearly, and store the roots in sand or fine coal-ashes. In preparing ground for a new bed trench deeply three spits, incorporating good, rich manure in quantity with the soil at the bottom of the trenches and with the second spit. Young straight roots having a crown, and from 8 to 12 inches long, should be selected and planted in rows at 1 foot

apart, burying them from 8 to 10 inches below the surface. That portion of last year's crop which is not lifted should receive an abundant dressing of spent Mushroom-bed manure.

Rhubarb.—Owing to the scarcity of Apples Rhubarb will be more in demand than usual, and larger quantities of roots should be put into the Mushroom-house or forcing-pit at intervals of ten days. Now that the roots have been afforded a rest forcing will be more satisfactory and a finer growth may be expected. A quantity of roots may now be dug up and heeled-in where they can be protected from frost and brought forward as may be required. The ground for fresh plantations being selected it may be heavily manured and deeply trenched. Rhubarb may be planted at any time in spring or autumn, but except on very light dry land planting is better for being deferred till the end of the month of February or a little later. Roots which are not to be lifted should be afforded a dressing of half-decayed stable-manure.

Seakale.—Let batches of a sufficient number of crowns be placed in the Mushroom-house or other dark warm place about once in ten days; make provision for growing the shoots in total darkness. These crowns will furnish the thongs for making the future sets. These consist of the clean straight roots taken from the main roots and cut into lengths of 5 or 6 inches, being cut square across at the upper end, and diagonally at the opposite end. Tie these in small bundles, the thicker ends uppermost, and bury them in fine soil. They will push forth roots and leaves in the spring, and should then be planted. The crowns intended for being forced should be bedded-in thickly in rows and just covered with soil, and protected in frosty weather with bracken or long litter.

FRUITS UNDER GLASS.

By T. H. C.

The Earliest Pot-Vines.—Those that were started at the beginning of this month, will have their buds on the move at the present date, and may be afforded a night temperature of 55° to 60°, increasing these figures by fire-heat 5° by day. Let the bottom-heat stand at about 70°, and if necessary turn over and add to the materials for keeping up the desired bottom-heat. Root-action being now apparent, there should be careful attention paid to affording water, never allowing the soil to become dry, and always making use of water of the same temperature as the air of the house. When the laterals are increased to 3 inches in length, apply weak liquid-manure alternately with pure water. Syringe the canes twice daily, and maintain the air in a moist condition by damping paths, &c.

Early Black Hamburgh-house.—The Vines having been pruned and cleansed, and the house prepared for a start, it may be closed on December 1, if ripe Grapes are required in the month of May. For the first ten days let no artificial heat be employed, unless it be to keep out frost, but afterwards afford a night warmth of 45° to 50°, and 10° higher by day. If the roots are partly outside and partly inside, see that the former are covered 18 inches deep with tree-leaves. Just previously to the buds bursting, vaporise the vinery with XL-All, more particularly if thrips were troublesome the previous year. Afford the interior border tepid water copiously before closing the vinery.

Succession Vines.—Prune these Vines as soon as the leaves have fallen, and in order to prevent bleeding in young Vines, dress all wounds with a styptic. Where border extensions are necessary, let the work be carried out without delay. Good compost, at the least 2 feet in thickness, should be added after the bottom has been concreted, and ample drainage provided. If the Vine roots have not taken full possession of the last addition of soil, prick up the surface, and apply a top-dressing of good turfy-loam, a small quantity of charred refuse, mortar-rubble, and a liberal sprinkling of Thomson's Vine-manure.

Ripe Grapes.—With the exception of Gros Colmar and the latest Lady Downes' Seedling, the bunches of other varieties, more especially if the Vines have lost their leaves, may be placed

in bottles, where, if perfectly ripened, they will keep just as well as on the Vines, besides being more easily examined, and out of the reach of rats and mice, which in many gardens are very troublesome in the winter. When cutting the bunches remove them with about 1 to 1½ ft. of lateral between the bunch and the rod, and place rain-water in the bottles as well as a lump of charcoal. Take care not to rub off the bloom, and carry the bunches from the vineries to the Grape-room without laying them upon their sides. Maintain a temperature of 45° in the room, and keep the air dry; and while admitting a little fresh air occasionally in mild weather, avoid cold draughts. Look over the bunches at least once a week, removing berries that show decay, if ever so little. The air of vineries where Grapes are still hanging should be kept dry; but the roots should not lack water at this season.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Lily of the Valley.—The present affords a convenient season for breaking up and replanting the clumps, the stronger crowns being selected for planting in pots, and the residue of one and two-year-old crowns in beds and lines. Where the systematic breaking-up and replanting every third year is followed out the general cultivation of the plants is improved, provided the clumps are not broken up too severely. The beds, &c., should be well enriched with decayed manure and leaf-soil, together with sharp sand if the natural soil be deficient in this ingredient. The crowns should be sorted according to age, the youngest being those found the more distant from the mother-plant, and also the smaller. Plant individuals of each age by themselves in rows 9 inches apart and 3—4 inches in the rows. These plots should not be disturbed for at least three years; and by lifting and planting a portion of the three-year-old plants a constant supply of good flowering crowns can be kept up.

Solomon's Seal.—This, a near relative of the foregoing, is equally useful for forcing, and may be treated now in the same manner, excepting that it requires considerably more space. For planting in the wild-garden, and especially near water, this is an excellent, graceful, and quaint, though rather neglected plant, with a charm of its own.

Gaillardias.—Where named varieties only are cultivated the supply of plants should be kept up by propagation from cuttings, which may be found at this season springing up sucker-fashion near the stools, or by cuttings of the roots; and the present is a good season for securing them. They may be rooted under glass in boxes filled with light soil. As old stools often succumb to wet winters, annual propagation is necessary in some gardens. Seedlings raised and treated as biennials are easy to grow, but many of these produce crooked stems and are otherwise unsatisfactory and are not to be compared with named varieties.

Box Edgings.—Where these have, for want of attention to close clipping during the summer, been allowed to get ragged and tall, they may now be lifted, split up into pieces about 6 inches long, and relaid, making them very firm in the soil. Only a sufficient number for the day's planting should be lifted at one time, and this only when the weather is mild.

Trees and Rabbits.—We may at any time expect a fall of snow, and the occurrence is generally followed by attacks of rabbits on the bark of young trees. In order to prevent injury to trees, guards of galvanised netting or some other means of protection should be used. I find that ragged strips of old herring nets wound round the stems to the height of 2 feet an effective protection.

Lawns.—The leaves having fallen from most kinds of trees, top-dressing of charred earth, bench siftings, decayed manure, basic slag, lime, loam, &c., may now be applied. Ordinary chemical quick-acting manures should not be applied till the spring.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Appointments for December.

- WEDNESDAY, DEC. 2 { National Chrysanthemum Society's Exhibition at Crystal Palace (2 days).
THURSDAY, DEC. 3 { Linnean Society's meeting.
Putney Chrysanthemum Society's Annual Dinner (not December 31).
SATURDAY, DEC. 5 { Société Française d'Horticulture de Londres meeting.
THURSDAY, DEC. 10 { National Rose Society's Annual General Meeting and Dinner.
SATURDAY, DEC. 12 { Royal Botanic Society's meeting.
MONDAY, DEC. 14 { National Chrysanthemum Society's Executive and Floral Committees' meeting.
TUESDAY, DEC. 15 { Royal Horticultural Society's Committees' meeting.
THURSDAY, DEC. 17 { Linnean Society's meeting.
WEDNESDAY, DEC. 23 { Royal Botanic Society's meeting.
FRIDAY, DEC. 25 { Christmas Day.
SATURDAY, DEC. 26 { Bank and General Holiday.

SALES FOR THE WEEK.

- MONDAY, Nov. 30—
Bulbs, American Fruits, Iris, Lilies, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11.—
At Stevens', at 12.30, Roses, Azaleas, Lilacs, Palms, Bulbs, &c.
WEDNESDAY, DEC. 2—
Bulbs, Azaleas, Rhododendrons, Roses, Perennials, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11.—Consignment of Japanese Lilliums, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 5.—At Stevens', at 12.30, Bulbs, Palms, Roses, Azaleas, &c.
FRIDAY, DEC. 4—
Bulbs, Asters, Hollyhocks, American Fruits, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11.—Orchids in variety, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —41°.

ACTUAL TEMPERATURES:—

LONDON.—Nov. 25 (6 P.M.): Max. 47°; Min. 33°.
Nov. 26 (noon): 44°; sunny at times, calm.
PROVINCES.—Nov. 25 (6 P.M.): Max. 48°; Bath; Min. 37°, off Aberdeen.

PERHAPS no changes in plant form are more remarkable than those that have been effected by gardeners in the case of the Begonias. All these have been effected in the course of little more than a quarter of a century. The genus itself is a very large one, and very widely dispersed. Naturally, it is very diverse in its characteristics, and now that the hybridists have worked their will in it they have succeeded in inducing such additional changes that, judging from the flowers alone, the student might well doubt if the flowers put before him were Begonias at all. They look as much like Camellias or Balsams or Carnations as Begonias. Whether it is good taste to make a flower resemble anything but itself is a matter that need not be discussed, as no finality could be arrived at. It is enough that our gardens have been enriched to a wonderful extent by the introduction and development of different types of Begonias, and that even in the dull months

of winter it is possible to have a brilliant display of colour. The genus, as we have said, is very large, and the botanists have been at much pains to divide it into convenient, easily recognisable, sections. For garden purposes, however, the botanical subdivisions are of little moment, it is more convenient to classify them into subdivisions according to habit and the use to which they may be put—stemless or with a long stem, fibrous rooted, or provided with tubers, Begonias grown mainly for their ornamental foliage, others for their flowers, winter-flowering Begonias, bedding Begonias, the offspring of *B. semperflorens*, and so on.

The foliage Begonias are in many cases derivatives from *B. rex*, a plant described by PUTZEYS in the *Flore des Serres*, t. 1255, and figured also in the *Botanical Magazine*, t. 5105. According to Mr. C. B. CLARKE, in HOOKER'S *Flora of British India* (1879), vol. 2, p. 647, this is a native of Assam and Mishmee, and numerous specimens are quoted as being in the Kew herbarium.

Another species native of India, from Nepal to Burmah, and found also in Southern China, is *B. laciniata*, with which *B. Bowringiana* is considered synonymous (CLARKE, *loc. cit.*), *Botanical Magazine*, 5021, 5182. Our illustration (fig. 149, p. 368) of this plant has been prepared by Mr. WORTHINGTON SMITH from living specimens furnished by Messrs. SANDER & SON, of St. Albans. This species has dark-green leaves, with median pale silvery-green band graduated into the darker parts. The margin is red, and the veins blood-red. The back of the leaf is crimson and very hairy, as also are the stems.

From these two, *B. rex* and *B. laciniata*, crossed reciprocally, were produced by Messrs. SANDER the two fine varieties exhibited by them and called respectively His Majesty and Our Queen (p. 369). The influence of the female parent is, we are told, very marked in the case of the various crosses that have been made.

His Majesty is the result of a cross from *Bowringiana* out of *B. rex*, and Our Queen is from *Rex* out of *Bowringiana*, *alias laciniata*. The form of the foliage may be seen in Mr. WORTHINGTON SMITH'S illustrations taken from the living plants (fig. 150, p. 369). The prevailing colour in His Majesty is a rosy-lilac, but in the centre of the leaf is some olive-green, approaching brown colour, concentrated around the principal ribs and nerves. In Our Queen the leaves have a centre or disc of dark velvety, olive-green, nearly brown, bordered with a stripe of light-green between the centre and the margin, the whole spotted with small pink spots. The merits of both plants were recognised by the Floral Committee.

The history of the tuberous Begonias has often been given in our columns, and the varieties induced by the gardener have ousted the original species, which are now rarely, if ever, seen even in Botanic gardens. Of one of these varieties we have lately had occasion to speak, not indeed as new, but as particularly brilliant and effective in the flower-beds at Versailles. It approaches in form the original *B. boliviensis*, from which no doubt it is descended; see p. 254.

The tuberous Begonias are mostly of Andean origin; they have been crossed with

one another and with South African species, so that geographical remoteness does not interfere at all with inter-crossing. Very striking in this connection is the Socotran species, *B. socotrana*, introduced by Prof. BAYLEY BALFOUR. This, crossed with *B. Dregei* from the Cape has given us the popular Gloire de Lorraine. The whole series of beautiful winter-flowering hybrids which have been raised for Messrs. VEITCH by Mr. HEAL, have also *B. socotrana* as one of their parents. Fibrous-rooted varieties have been crossed with tuberous forms, and the Assamese *B. rex* has been crossed with *B. socotrana*, so that the distinctions, whether geographical or morphological, between them are broken down. As to the flowers the plants are usually "monœcious"—that is, the male flowers, though separate from the female, are borne on the same plant, generally in the same inflorescence; but some of the hybrids, like Gloire de Lorraine, are mostly "dioecious." Female flowers and ripe seeds are, indeed, only very occasionally produced on this variety. The same phenomenon is witnessed in the variety called John Heal, but, as the plants are most easily propagated by cuttings or leaf-buds, the absence of seed is of no great importance. The female flowers have usually an "inferior" ovary, but it is not uncommon to see it "superior," whilst hermaphrodite blossoms are now and again met with. These divergences are rather troublesome from one point of view, but from another they are of great interest as showing how arbitrary are the distinctions on which we rely, and also as furnishing the botanist with some clue to the real ancestry and relationships of the genus.

Before quitting the subject we may call the attention of our readers conversant with the French language to a little book lately published by M. O. DORN, of Paris, and compiled by M. A. VAN DEN HEULE. This gives in small compass the history of the genus, the methods of cultivation and propagation, and very full lists of the varieties. It is an excellent little treatise; but its utility would be much enhanced if, in addition to the sectional lists, a comprehensive alphabetical index to the whole book were provided.

UNIVERSITY OF LONDON: LECTURES ON ADVANCED BOTANY.—Mr. A. D. HALL, Director of the Rothamsted Experimental Station, gave his sixth lecture at the Chelsea Physic Garden on November 24. The lecture first dealt with the Barley-crop, and contrasted the manurial requirements of Barley and Wheat. Barley is less dependent on nitrogenous manuring than Wheat, but requires more phosphoric acid. The difference may be put down to the comparatively shallow root-system of Barley, and its growth during a warmer season of the year. For the same reasons Barley is more suited to lighter soils than Wheat prefers. High quality in Barley is associated with a high proportion of starch and a low nitrogenous content, the reverse of what is desired in Wheat. The effect of manures upon the quality of the Barley grown on the Rothamsted plots was then discussed; it was shown that the quality of Barley was more affected by manuring than was the case with Wheat. Superphosphate, by accelerating the ripening, and ammonia salts as sources of nitrogen, were favourable to the quality; potash increased the size of the "berry," but did not improve the quality in the same proportion. Lastly the influence of cultivation upon the quality of Barley was discussed,

and it was shown that Barley grown after roots was rarely so good as Barley after a previous straw crop, also that early sowing and a long period of growth were great factors in producing high quality. Mangolds were then taken as an example of a root crop. Their manurial requirements were shown to be mainly nitrogen and potash. Nitrate of soda was also far more effective than ammonia salts. This was attributed to the deep-rooted habit of Mangolds; the freely-soluble nitrate increases the range of the roots, whereas ammonia salts remain near the surface. In consequence, Mangolds grown with ammonia salts ripen off earlier than those grown with nitrate of soda. Mangolds are essentially a crop for strong land, though the habitat of the wild Beet, from which they are derived, would indicate a sandy soil as most suited to the plant. The natural habitat of a plant is often the place to which it has been driven to escape competition rather than the place in which it will grow best. The lecturer then gave results of the analysis of Mangolds at various stages in their growth, and as grown with different manures at Rothamsted. The effect of manuring on the composition was not great, and is in the main indirect, acting by shifting the time at which the roots mature. With excess of nitrogen, and especially when potash is deficient, the plants become very susceptible, the leaves being rapidly destroyed by fungoid attacks. The next lecture will be given at 3 p.m. on December 1, and will deal with the effects of manures on the botanical character of the herbage of grass land.

LINNEAN SOCIETY.—On the occasion of the evening meeting to be held on Thursday, December 3, 1903, at 8 p.m., the following papers will be read:—1. "On the Littoral Polychæta from the Cape of Good Hope." By Dr. ARTHUR WILLEY, F.R.S., &c. 2. "Notes on Myriactis Arschougii and Coilodesme californica." By Miss MAY RATHBONE.

THE GARDENS OF THE QUIRINAL.—The recent visit to England of the KING and QUEEN OF ITALY has revived our interest in Italian horticulture, and the following notes about the gardens of the Quirinal are particularly acceptable. They are derived from a recent issue of the *Journal de la Société Nationale d'Horticulture de la France*. The gardens of the Quirinal were laid out, during the pontificate of PAUL V., on the summit and slopes of the hill, anciently the Collis Salutaris. The upper part of the gardens is quite level, and somewhat formally laid out with avenues of *Quercus Ilex*, and *Buxus sempervirens*, which form clipped hedges; and there are borders geometric in form, interspersed with flower-beds and fine shrubs. The lower portions of the grounds are more pictorial, and the water from the terraces above is here turned to account for plants which need coolness and moisture. Here also is a hydraulic organ which, until some few years ago, had played for centuries. The gardens contain some fine Palms, the Phoenix being particularly beautiful. Numerous fountains and handsome statuary are found herein, and these and the gardens generally are kept in excellent condition. The KING and QUEEN OF ITALY pass a considerable part of their leisure in the Quirinal gardens, the KING being interested in trees and the QUEEN in flowers.

M. CROZY.—We regret to announce the death, at the age of seventy-two, of M. PIERRE CROZY, of Lyons, which took place lately at Hyères (Var) while he was on a visit to his daughter. M. Crozy was widely known for his cultivation of Cannas. In the year 1897 he gave the following account of his experiments in MÖLLER'S *Deutsche Gärtner-Zeitung*, from which we take what follows:—"I have," said M. CROZY, "undertaken for the first time cross-fertilisation between *Canna Warszewiczii* and

Canna nepalensis, a species with large, pale yellow flowers and a strong, creeping rhizome. The first results of my hybridisation bore the names Boneté and Plantieri, of which the latter had green leaves and orange-coloured flowers, while the former more resembled *Canna Warszewiczii*, and had purplish-brown leaves and fairly large flowers. In addition to this, it bloomed freely, and for a considerable time met with much favour. After that I obtained hybrids of *Canna aureo-pictata* with yellow-spotted flowers, which from year to year gradually became larger and more rounded in shape. I then occupied myself in trying to obtain earlier-blooming sorts. By a careful choice of the seedbearer, I gained a hybrid that is very free-blooming and has no creeping rhizome. I long continued thus to discard all defective plants. I am not able to reckon exactly the number of forms that I have produced, but without exaggerating it is between 180 and 200. These have all showed gradual development and improvement. Among my novelties that are not yet placed on the market are some of very brilliant colour, and having flowers of from $4\frac{1}{2}$ to 6 inches in width, these are set in great numbers in very strong panicles."

MUSHROOM CULTURE.—We are glad to see, by a note in the *Weekly Florists' Review* (American) for October 15, that, following the advice of Prof. B. M. DUGGAR, of Columbia, Mo., Mr. SWANSON, one of the leading Mushroom-cultivators in Chicago, is adopting a comparative "pure-culture" method of preparing the spawn. The spawn is grown direct from the best Mushrooms, either from the spores or tissue, in glass tubes in sterilised manure. It grows rapidly and is very vigorous, and although it had not yet been tried on a large scale, Mr. SWANSON was so well pleased with his first trial that he decided to adopt it exclusively for this season's business. An illustration of the first crop on a bed of 100 square feet grown from this spawn shows the yield to have been satisfactory. Descriptions of the "pure-culture" methods that have been practised in laboratories in France were published in the *Gardeners' Chronicle* for August 19, 1893, p. 214, and December 11, 1897, p. 416, and many times subsequently.

KENT AND SURREY COMMITTEE, COMMONS AND FOOTPATHS PRESERVATION SOCIETY.—The Kent and Surrey Committee of this long-named Society send us their Report for the year 1902—3. It is a record of valuable work, and the members are to be congratulated upon their success. Among the noteworthy cases dealt with during the season is that concerning the Ham and Petersham Commons, and the river-front from Richmond to Kingston, now secure from building. By this the long famous view from Richmond Hill is preserved from disfigurement, and a considerable expanse of open space is left free for the enjoyment of residents in and visitors to the neighbourhood.

CANADIAN APPLE SHIPMENTS.—According to the *British Canadian Review*, shipments of Apples from Canada to Great Britain this year have been unusually large, but prices for good qualities continue to be very fair. For the week ending October 24, the number of barrels which left the port of Montreal was 59,324, of which 24,265 went to Liverpool. All the others went to British or Scotch ports, except a few to Antwerp. Most of these came from Ontario, where the crop, while not so large as that of last year, is astonishingly good for an "off" year. The Nova Scotia crop fit for export is estimated at 500,000 barrels, of which about 155,000 have already gone, and it is calculated that the amount of cash which fruit-growers will receive is not far short of a million and a half dollars.

ELTHAM AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The first general meeting of the above Association was held on Wednesday evening, the 18th inst., at eight o'clock, in the Institute, High Street, Eltham. Considering the short period of time the Society has been formed, the numbers present augured well for the future success of the Association. At eight o'clock the Secretary, Mr. J. D. ROBERTSON (to whom the Society owes its inception), read a letter from Mr. ROSSSETTI, of "Merlewood," expressing regret at being unable to attend. In his absence Mr. STAFFORD, one of the Vice-Presidents, was voted to the Chair. The prizes offered were keenly contested.

CHERTSEY GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Mr. A. J. BROWN'S fifth annual concert in aid of the funds of the Gardeners' Royal Benevolent Institution has become a recognised and welcome event, and may justly be regarded as the musical event of the year so far as Chertsey is concerned. This year the fixture, in point of the quality of the programme and the support accorded by the public, was fully equal to what it has been in the past. The hall was prettily decorated with choice Chrysanthemums from the School of Handicrafts, and numbers of Ferns, Palms, and foliage plants were lent by Mr. L. J. BAKER and Mr. P. WATERLOW. The piano was kindly lent by Messrs. WATERER & SONS.

SOCIETY FOR HORTICULTURAL SCIENCE.—The Society for Horticultural Science was successfully organised at Boston, U.S.A., Sept. 9. There was a good attendance at the meeting, and the discussion of the project was general. The need for strengthening the scientific side of horticultural work was deeply felt, and sentiment was strongly in favour of a concerted movement to this end. Hence the Society. Membership in the Society is open to any person engaged in the teaching of scientific horticulture or in investigating problems bearing upon it under certain conditions. These are (1) recommendation of a member, (2) a two-thirds vote of the Council, (3) payment of the membership-fee of two dollars. President L. H. BAILEY has called the first meeting with programme to be held in St. Louis this next Convocation Week in connection with the meeting of the American Association for the Advancement of Science. A more detailed announcement on this point will be made later. The central feature of the programme is to be a discussion of the principles underlying the practice of tillage, together with the use of cover crops in orchards. Two other general subjects are also to be taken up: (1) A discussion of the shading of plants from the physiological standpoint, (2) accounts of recent progress in scientific horticulture in some of the foreign countries. These features are in addition to the reports of original investigations. S. A. Beach, Secretary-Treasurer, Geneva, N.Y., October 31, 1903. The Editor of this Journal has been elected an Honorary Member.

CHRYSANTHEMUMS AND CHARITY.—For a fortnight in November the private collection of Chrysanthemums belonging to H. GRANT, Esq., Sudbury House, Great Clacton, has been open for the inspection of visitors, who were invited to contribute to a collection for the Clacton Cottage Hospital. The amount thus secured for the hospital was £13 12s. 6d. Although the glasshouses and gardens generally were thrown open, the Chrysanthemums were the chief attraction, the gardener, Mr. F. J. Toms, being a first-class cultivator.

"CHRYSANTHEMUM GUIDE."—We have received a copy of Mr. H. J. JONES'S *Chrysanthemum Guide*, and have no hesitation in recommending it to all exhibitors of this flower, and to cultivators generally. The alphabetical list for stopping and timing the principal varieties has

been brought up to date as far as was possible, and in itself is a useful aid to the cultivator. There are chapters on "Japanese Chrysanthemums for Exhibition," "Culture of the Incurved Chrysanthemum," "Incurved Chrysanthemums for Exhibition," "How to Grow Large Blooms on Plants in 6-inch and 7-inch pots," "Calendar for the Year," &c. The price in paper covers is 6d., but the pamphlet may also be obtained in cloth bindings.

THE GINGKO AS A TOWN TREE.—We have repeatedly advocated the use of this tree for street planting, the principal drawback being the scanty supply. An illustration in *American Gardening* for October 31 shows what a fine avenue of this tree exists in the City of Washington. The trees are about thirty years of age, and average 50 feet in height.

THE WEEDS OF ONTARIO.—The *Bulletin* of the Ontario Agricultural College for August, 1903, contains descriptions and illustrations of the commoner weeds, together with representations of their seeds. To a large extent the weeds are the same as those which are the pests of cultivated land here, and the means of destroying them are the same. The pamphlet published by the Ontario Department of Agriculture is likely to be very serviceable.

THE BELGIAN YEAR-BOOK OF HORTICULTURE, and of the industries pertaining to it will appear in January, 1904. This Year-book will be divided into three parts: 1, Administrative part; 2, complete list of the addresses of nurserymen and cultivators; 3, advertisements. The publishing office of the Year-book is Ghent, Coupure 15.

PRESENTATION TO MR. ALEX. DEAN.—On Tuesday evening last, 24th inst., the members forming the executive committee of the recent gardeners' dinner and reception entertained the honorary secretary, Mr. A. DEAN, at dinner at the Holborn Restaurant. Mr. OWEN THOMAS, V.M.H., who has ably and courteously acted as chairman of committee during the months preceding and subsequent to the dinner on September 29 last, presided. The chairman, in a few well-chosen remarks, asked Mr. DEAN's acceptance of a silver salver suitably engraved, and an address. Mr. DEAN gratefully acknowledged the gifts, and in an excellent speech recounted some of his earlier experiences in gardening, much to the interest and instruction of those present. With the exception of Mr. HUDSON the members forming the late committee were all present. The address was as follows:—

"To Mr. ALEX. DEAN,—We, the Committee of the above, have much pleasure in asking your acceptance of this Address as a Favour of the occasion and as a slight token of their appreciation of the valuable services rendered by you as Hon. Secretary in bringing about the great success the function proved to be. The Committee are mindful that to your initiative is due the conception of a great national social gathering of British gardeners in London in association with the last of the great Fruit and Vegetable Shows held at Chiswick Gardens under the auspices of the Royal Horticultural Society; but above and beyond this the Committee feel that the unparalleled success of this great gathering of close upon 500 horticulturists who met in the King's Hall at the Holborn Restaurant on this occasion, under the Chairmanship of Viscount DUNCAN, in the unavoidable absence of LEOPOLD DE ROTHSCHILD, Esq., is due to the untiring labour of love you so freely gave to the organising of the movement, and to the long sustained devotion you rendered to every item of work, so long as work remained to be done.

"You will require nothing to remind you of the pleasant time we had together in working for the success of the Banquet; it will, we are sure, be engraved on your memory as a red-letter day, and not the least pleasurable part will be the satisfaction of knowing that it proved a financial success, and that the balance left over was handed to the garden charities.

"As a slight Souvenir and a token of esteem and regard we ask your acceptance of this Address and piece of Silver, with our sincere good wishes for good health and all possible happiness for many years to come." J. F. McL.

ARGENTINE FRUIT, ETC.—We are informed that arrangements are now completed for the carriage of fruit and vegetables from Argentine to this country. As we have already stated, Peaches will be the more important of the fruits sent out, and Tomatos and Asparagus will represent the vegetables. Two steamers are quite ready for the coming season.

Obituary.

JOHN WARD.—This famous gardener and worthy man entered into his rest after a short illness, although he had not been in the best of health for several years. About ten days ago he had a paralytic seizure, but was fully conscious, lingering a week or so, and passing away painlessly on Thursday the 19th inst. He was buried at St. Peter's, Forest Rise, Walthamstow, on the 24th inst.

Mr. Ward was born on January 29, 1831, in the days when there were no school attendance



THE LATE JOHN WARD.

officers, and boys had to work early and late for very small wages, those who had the least coddling seemingly doing the best. My good friend started work at eleven years of age in the garden of the Rev. N. Watson, of Loughton; thence he went to Chigwell, under Mr. Jos. Protheroe. After some experience at Chigwell he obtained a position in Lord Petre's garden at Thorndon Hall, Brentwood, and subsequently he went to Earl Denbigh's, Newnham Paddock, Leicestershire. After seventeen years' experience in these various gardens, he had a turn in the nursery of Messrs. John & James Fraser, of the Lea Bridge Road. At that time this nursery was noted for the growth of specimen stove and greenhouse plants, with which they carried off the leading prizes at the chief London exhibitions. Here the young gardener had an opportunity of getting acquainted with all the details of this class of work, and his future success, wherein the pupil surpassed the master, showing what good use he had made of his opportunities. The late F. G. Wilkins, Esq., of The Poplars, Leyton, applied to Messrs. Fraser for a gardener, and selected Mr. Ward, who began his career as head gardener there in 1858, at the age of twenty-seven. It was

a small garden, but Mr. Ward set to work to do the best with the existing material. Mr. Wilkins encouraged his young gardener, and showed his appreciation of his work by purchasing new plants and building glasshouses for their cultivation. I saw Mr. Ward's work frequently during the seventeen years he was engaged in these gardens, and can truly say that he never failed in anything that he undertook. He came out decidedly first in stove and greenhouse flowering and foliage plants, growing them as they had never been observed previously. His specimen plants of *Anthurium Scherzerianum* var. *Wardi* (named after the raiser) were truly magnificent. Mr. Wilkins next fancied Orchids, and his gardener threw his heart into their culture, and, as with other things, he met with great success. The Orchids were sold, after the sudden death of Mr. Wilkins in 1875, at Stevens's Rooms, King Street, Covent Garden. The prices obtained were very high, owing to the rarity of some and the excellent condition of all.

The name of John Ward is not known to the younger generation of gardeners, as it is twenty-eight years since he exhibited his last collection of plants; but it is fresh in the memory of those of us who did our best work in the seventh and eighth decades of the last century. After the death of Mr. Wilkins the establishment was broken up, and Ward bought an acre of ground at Leytonstone, built a house or two, and grew Cucumbers, Grapes, and "market-stuff." Here he was equally successful, and the entire acre was soon covered with glass. I am not inclined to philosophise; the master is gone, and has left his record behind. To his sons, who will carry on the work, I wish every success. Ward had not a chance to obtain a good education; a boy who has to start work at the age of eleven cannot be well educated, but is cast on his own resources, and this circumstance puts life and mettle into a boy. I read of a desire to form "a National Association of Gardeners." I hope such an association may be formed; I wish it every success. But garden boys and young gardeners will obtain little or scarcely any help from such an association. The only help is the kind which Mr. Ward and I had—self-help. Head gardeners can help their young men by advice and encouragement in their attempts to advance in their calling, and discourage everything that is likely to prove a hindrance, such as cigarette-smoking, drinking, and frivolous amusements of all kinds. May every head gardener feel that he is responsible in a great degree for the welfare of the boys and men under his care, and that example is more than precept! He may do much to help them by his advice in choosing the books and papers they should read. Jas. Douglas.

WILLIAM COSSAR, head Gardener to Earl Mansfield, at Caen Wood, Hampstead, died on Saturday morning, November 21; he was seventy-seven years of age, and had been gardener at Caen Wood for the last thirty-seven years.

PUBLICATIONS RECEIVED.—From the Imperial Department of Agriculture for the West Indies come papers on *Ground Nuts in the West Indies*, by William G. Freeman, and *Seedling and other Canes at Barbados*.—*Proceedings and Journal of the Agricultural and Horticultural Society of India*, for April–June, 1903, includes various appropriate notes, and an illustration of foliage *Anthuriums*.—*Proceedings of the Agricultural Society of Madras*, April to June, 1903. It is proposed to set aside a room as a Museum, where samples of fibres, resins, &c., can be displayed.—*The Queensland Agricultural Journal*, September. This reports upon and illustrates the distinct exhibits at the Exhibition at Bowen Park, includes notes on Wheat, Flax, and other economic plants, and deals with matters connected with Dairying, Poultry, Stock, &c.—*The Journal of Agriculture of Victoria*, September. This furnishes a review of the work of the past year, remarkable as being that of the severest drought ever experienced since the country north of the dividing range has been brought into cultivation. At no time have the

advantages of irrigation been so clearly demonstrated in the State. In the vineyards Phylloxera gave much trouble, and resistant vine nurseries have been founded. In spite of these adverse conditions, the reports are generally favourable.

ITEA ILICIFOLIA.

THE genus *Itea* was, until recently, represented in English gardens by *I. virginica*, a spreading shrub 3 or 4 feet high, suckering freely, and flowering profusely in August. It has ovate, dark dull green leaves 2 or 3 inches long, and slender terminal cylindrical spikes 3 inches long of small white flowers. It is represented by good examples in the arboretum at Kew. *I. ilicifolia*

HOME CORRESPONDENCE.

THE PERSISTENCE OF THE MARIGOLDS.—The African and French Marigolds have held on for a long time this season, but the frost has now terminated their floral service, except in sheltered positions. At Gunnersbury Park, Mr. Reynolds has (early in November) on the border of his long Peach-case, which faces south, a number of plants of yellow *Chrysanthemums*, occupying about one-third of its length; the remaining two-thirds is filled with orange African Marigolds. The *Chrysanthemums* have a sorry appearance, but the Marigolds are brilliant in the extreme, laden with large, full, symmetrical blossoms. They were untouched by the 6° of frost experienced at Gunnersbury Park on the 17th, and should the weather become mild,

or Mr. J. J. Willis, of Rothamsted, give to your readers the benefit of their knowledge and experience. There is undoubtedly a practical benefit to all who cultivate soil to be derived from an authoritative statement concerning this matter. If the rains have deprived the soil of plant-foods, as is inferred, heavier manure-dressings will next year be needed. If no such harm has been done, then manuring may be as usual. It is, however, difficult to assume that no depletion of manure has taken place. All manures, and chemical ones especially, are much more rapidly rendered soluble in a wet season than in a dry one; indeed, we have had seasons so dry that these manures have undergone little change. That being so, it is natural to assume that manures being thus rendered soluble have been much more largely utilised than is the case when



FIG. 152.—*ITEA ILICIFOLIA*: GROWN AT KEW.

(fig. 152) has lately been added by Messrs. Veitch & Sons, through their collector, Mr. Wilson, who sent home seeds of it from Ichang, where it was originally discovered by Dr. Henry, in 1886, "growing in rocky places on the tops and sides of cliffs, forming a shrub 3 or 4 feet high." There is, in the temperate house at Kew, a good example of it, which flowered last September. It forms a shapely evergreen bush with holly-like leaves, and spikes 4 inches long of white flowers. Possibly it will prove hardy at Kew, but so far as I know its hardiness has not been tested. It is a plant that should interest gardeners in the South and West. The *Iteas* are related to the *Escalantias*. *I. spinosa* of Andrews' *Botanical Repository*, t. 314, is now referred to *Bursaria spinosa*, and *I. Cyrilla* of Sweet is *Cyrilla racemiflora*, the "leatherwood" of the South United States. W. W.

with a little sunshine, the Marigolds seem as if they would go on for some time to come. In my cold house I have a plant of a striped French Marigold, growing in a medium-sized pot, with fully fifty expanded blooms on it, and they are very slow to fade. The value of the African and French Marigolds, when grown in pots for conservatory decoration in the closing months of the year, is not nearly so much appreciated as it should be. R. D.

MANURES AND THE RAIN.—It has been said, but with what degree of truth it is not easy to ascertain, that the heavy rains of the year, reaching up to the end of October, a greater quantity than has fallen in any whole year since 1872, have largely tended to deplete the soil of manurial properties, literally washing them away out of reach of crops. It would be very interesting as well as helpful in determining the truth or otherwise of this suggestion, did either Mr. A. D. Hall

seasons are dry. But then again, with perhaps the exception of grass and weeds, we have seen no special evidence of unusual exuberance of growth on the part of ordinary crops, and that naturally leads to the assumption that the proportion of manures when soluble washed out of the cultivated soil by the constant and heavy rains was as large as that utilised by the crops, and perhaps more so. Of course, it can be shown that average crop growth was largely discounted by the abnormal coldness of the soil and the atmosphere, due to the relative absence of sunshine. Those were undoubtedly things which did greatly check growth, and are mentioned as showing that whilst abundant rains did greatly assist manures to be soluble and capable of ready utilisation as plant-food, other causes operated to check crop growth rather than to assist it. It would also, seeing how important is said to be the part played by bacteria in the conversion of manures to plant-

foods, how far a cold and excessively wet season may have affected the operations of that wonderfully minute and marvellous section of microscopic gardeners. I presume that there is not at present, whatsoever there may be in the future at Wisley, any British station where subjects of cultural as well as scientific interest can be answered so well as at Rothamsted, where at least it is always understood that pure science is foremost and commercial interests are incidental only. Mr. Hall has made soil his special protégé, and will, I am sure, readily reply to my queries if he thinks they merit attention. A. Dean.

CLERODENDRON NUTANS.—In the issue of the *Gardeners' Chronicle* for November 14, there appeared a short notice of the beauty and value of *Clerodendron fallax*, as a decorative plant, which everyone will fully endorse, but I would say a word of praise on behalf of the still more useful *Clerodendron nutans*. We have here just now some eighteen or twenty plants in 6 and 7 inch pots, each carrying twenty-five to thirty panicles of white flowers. These plants have much decorative value in the dwelling. I enclose some panicles for your inspection. J. Cocker, *Chesters, Humshaugh-on-Tyne*.

RASPBERRIES ON NOVEMBER 15.—I am sending some Raspberries of a variety from which I have gathered about two quarts a week for the last month; they always give a good supply of late fruits, and I should like to know the name of them. J. Balcombe, *Grenehurst Gardens, Capel, Surrey, November 15*. [The autumnal Raspberry much resembles *Semper Fidelis*. It is remarkable that these varieties have done exceptionally well this autumn, even the ordinary varieties have produced fairly good crops in Kent this autumn, although they have been given no special treatment. Your variety seems to be a heavy cropper and a vigorous grower. It would be wise another season to despatch fruiting branches to the Royal Horticultural Society's Fruit Committee. Ed.]

BEGONIA GLOIRE DE LORRAINE ON BALLOON TRELLISES.—I would like to add one word or two to the remarks of Mr. Fyfe upon the above popular plant. I have trained some of ours this year over wires in the form of a narrow balloon about 16 inches in height above the pot, which have been greatly admired; and such plants present a graceful appearance. The wires should be painted green. J. S., *Farnley, Otley*.

OLD-FASHIONED GARDENS.—Your excerpt (p. 355) from *American Gardening*, in which mention is made of Lord Bacon's protest against the barbarous practice of clipping trees, reminds one of Addison's famous satire in *The Guardian*:—"Adam and Eve in Yew; Adam a little shattered by the fall of the tree of knowledge in the great storm; Eve and the serpent very flourishing. The Tower of Babel not yet finished. St. George in Box, his arm scarce long enough, but will be in condition to strike the dragon by next April. A Queen Elizabeth in 'Phylæa,' a little inclined to the green sickness, but full of growth. An old maid-of-honour—in Wormwood. Divers eminent poets in Bays, somewhat blighted, to be disposed of—a pennyworth. A quickest hog, shot up into a porcupine by its being forgot a week in rainy weather," &c. A. C. Bartlett.

LILIUM AURATUM IN SCOTLAND.—Enclosed is a photograph of a plant of *Lilium auratum* growing in Mr. Galloway's garden, Viewbank, Kinnoull, Perth. It has grown from a single bulb planted in the open border in the spring of 1896, and has gradually increased in size till this year it had eleven stems with 144 blooms. The soil of the border is a light rich loam resting on a dry, open subsoil. The treatment has consisted merely in giving the bulbs protection from frost during winter by covering the surface with moss litter, and feeding with a little artificial manure during the spring and summer months. A. Mackinnon, *Scone Palace Gardens, Perth, N.B.* [An excellent plant, but a similar, even larger, one growing at Dunoon, in Perthshire, was illustrated in the *Gardeners' Chronicle*, May 13, 1899, p. 303. Ed.]

WINTER-GRAFTING ROSES.—In his excellent notes on "Rose Grafting," your correspondent, J. D. G., states, "It will be found necessary to

open the sashes a few hours each morning to dry the air and dissipate the excessive moisture that gathers round the plants." Your correspondent is speaking of freshly grafted plants, but if any of your readers act on this advice they will probably find it injurious. From personal experience I know that for the first week the grafted Roses (and the same applies to all hard-wooded indoor grafting) cannot be kept too close; half an hour each morning is the longest time permissible, and after this it can be gradually increased to an hour. J. D. G. says, "The French are very successful in this kind of business;" well, and so are the English, but not if they take too literally the advice I have mentioned. C. E. F. Allen. [Our correspondent will have noticed the fact that the grafting frame is placed inside the propagating house, thus tempering the influence of the air upon the Rose grafts. These would for two or three weeks possess no leaves. Ed.]

INTERESTING TRIAL OF POTATOS IN WEST LOTHIAN.—Mr. A. S. R. Learmonth, Balderston Farm, near Linlithgow, made a special trial of twenty-nine varieties of Potatos this season. Every precaution was adopted to ensure that each variety should obtain identical treatment. The land was ploughed in autumn after 20 tons of dung per acre had been spread on the stubble. When planting, a dressing of artificial manure was applied in the drills at the rate of 7½ cwt. per acre. The land is suitable for Potatos, being a medium alluvial loam. Mr. Learmonth's crops always run from 10 to 16 tons per acre, according to the variety. Twenty running yards of each variety were planted, with sixty whole sets specially selected, and weighing about 2 oz. each. To thoroughly test the disease-resisting qualities, lifting was deferred until the beginning of November. The produce of each variety was dressed and weighed in the presence of a representative of the Edinburgh and East of Scotland College of Agriculture and a representative of Messrs. Dobbie & Co. Appended are particulars of the ten varieties which were most satisfactory:

Variety.	Ware.		Seconds		Chats.		Diseased.	
	Ton	cwt.	Ton	cwt.	Ton	cwt.	Ton	cwt.
Evergood	10	5 0	2 13	2	0 13	2	...	...
Farmer's Glory	9	3 0	1 12	0	1 3	0	1	0 0
The Factor	9	3 0	1 1	2	0 13	2	1	3 0
British Queen	7	12 0	1 9	0	0 13	2	1	7 2
Up-to-Date	8	6 0	1 4	2	1 1	2	0	7 2
Abundance	...	...	...	...	...	...	...	...
(Sutton's)	7	9 0	1 15	0	0 7	2	1	7 2
Market Favourite	7	12 0	1 4	2	0 12	0	1	9 0
Main Crop	8	3 0	1 9	0	0 12	0	0	3 0
Royal Kidney	6	18 0	1 7	2	1 1	2	0	1 2
Dobbie's Improved Kidney	7	9 0	0 10	2	0 10	2	0	7 2

The other varieties which were tested, and which did not give such good results as the above, were the following:—Bountiful, Britannia, Cigarette, Daniel's Special, Dobbie's Favourite, Duke of Rothesay, Jeannie Deans, Satisfaction, Scottish Triumph, Springfield, Snowflake, The Crofter, The Sirdar, White Elephant, Windsor Castle, Cramond Blossom, Pride of Enfield and Fortyfold. One of the surprises of the trial was the position taken by Main Crop. Mr. Learmonth believes the splendid crop afforded by this variety to be largely due to the entire change of seed. Evergood was an easy first. In some districts this fine variety is "sprained," i.e., black in parts inside when cut across. It is to be hoped this trouble is only local. Scotia.

AKEBIA LOBATA.—Mr. Smith, of Newry, has just sent me a fruit and foliage of *Akebia lobata* (Decaisne), ripened in Nottinghamshire. The fruit is oblong and fleshy, 3½ to 4 inches long by 1½ inch broad, and of a smooth bright purple or puce colour; the leaflets are larger and more ovoid than in *A. quinata*, and appear to be ternate only. If it fruits at all freely it must be a very handsome thing. It appears to be Japanese, whereas *A. quinata* is Chinese. F. W. Burbidge.

ENQUIRY.

WHERE can I obtain plants of *Monanthes polyphylla* and *Petrophytes agriostaphis*. Perhaps they exist under some other name. J. C.

SOCIETIES.

ROYAL HORTICULTURAL.

NOVEMBER 24.—The usual fortnightly meeting of the Committees was held on Tuesday last in the Drill Hall, Buckingham Gate, Westminster, when there was an interesting display for the season, although few noteworthy novelties were shown. Orchids were as numerous as could have been expected, and the Committee recommended Awards including three Awards of Merit.

The FLORAL COMMITTEE made no Awards to novelties other than *Chrysanthemums*, which obtained three Awards of Merit. Messrs. VEITCH'S *Begonias* were again greatly admired, and *Chrysanthemums* from Messrs. H. CANNELL & SONS, W. WELLS & CO., Mr. H. J. JONES, Mr. W. J. GODFREY, and the excellent cultivator to Mr. HANKEY, of Leatherhead (Mr. Higgs), made a good floral display. There were sprays of zonal *Pelargoniums*, groups of Ferns, Carnations, shrubs in pots, Poinsettias, &c.

The FRUIT AND VEGETABLE COMMITTEE recommended a Silver-gilt Knightian Medal for an exhibit of ripe Grapes, but made no Award to a novelty.

At the afternoon meeting a number of new Fellows was elected, and it was announced that owing to family bereavement, Mr. R. Lewis Castle was unable to give his lecture upon "Pomology as a Study," which was postponed.

Floral Committee.

Present: H. B. May, Esq., in the chair; and Messrs. Geo. Nicholson, C. T. Drury, James Walker, A. Perry, Jno. Jennings, W. Howe, G. Reuthe, C. R. Fielder, Chas. Dixon, C. J. Salter, R. C. Notcutt, Chas. Jeffries, H. J. Cutbush, Chas. E. Pearson, C. E. Shea, H. J. Jones, W. P. Thomson, E. H. Jenkins, W. J. James, Chas. Blick, Ed. Mawley, E. T. Cook, and R. W. Wallace.

Messrs. J. HILL & SON, Barrowfield Nurseries, Lower Edmonton, made a large exhibit of Ferns, the plants shown on this occasion being large specimens that were appropriately arranged on the floor of the hall. There were particularly good specimens of *Davallia filix-mas* major and *D. f. elegans*, *Dicksonia antarctica*, *D. culcita*, *Davallia solida*, *Polypodium glaucum*, *P. Mayi*, *Gleichenia semivestita*, *Dicksonia Schiedeii*, *Davallia Mooreana*, &c.—(Silver-gilt Banksian Medal).

Mr. JOHN RUSSELL, Richmond Nurseries, Surrey, exhibited a group of small shrubs in pots suitable for putting into small beds or into window-boxes. The *Aucubas* were extremely well "berried," and the decorative-leaved species were excellent little plants. These included also *Elaeagnus glabra aurea*, a beautiful variegated Ivy, *Hedera Helix maderiensis variegata*, *H. maculata aurea*, *Garrya elliptica*, *Ligustrum tricolor*, many varieties of Holly, *Euonymus "Silver King"*—(Silver Flora Medal).

Messrs. JAMES VEITCH & SONS, Ltd., Royal Exotic Nurseries, King's Road, Chelsea, made a very brilliant show with their winter-flowering *Begonias*, hybrids from *B. socotrana* and tuberous-rooted varieties. *B. socotrana* was shown, and most of the hybrids, including *Winter Perfection*, *Ensign*, *Winter Cheer* (one of the best), *Agatha* and *Agatha compacta*. These *Begonias* last in good condition a considerable time, and it is noteworthy that some of these same plants were exhibited in bloom a fortnight ago at the Crystal Palace—(Silver-gilt Flora Medal).

Messrs. H. CANNELL & SONS exhibited cut blooms of *Chrysanthemums*. Amongst the numerous varieties were good blooms of *Bessie Godfrey* (yellow), *Mrs. F. S. Vallis*, *Queen Alexandra*, *General Hutton*, *Mme. P. Radaelli*, *Mytilæa* (a deep yellow incurved Japanese). Messrs. CANNELL had also a very fine exhibit of sprays of zonal *Pelargonium* blooms, the flowers of which were as large and as brightly coloured as they could be in the summer season. Another exhibit from the Swanley Nurseries consisted of remarkably good plants of *Begonia Gloire de Lorraine*, in 7 and 8 inch pots. The plants were quite masses of flowers; and a specimen of the variety *Turnford Hall* was just as well flowered—(Silver gilt Banksian Medal).

Messrs. W. WELLS & CO., Earlswood Nurseries, Redhill, had a magnificent display of *Chrysanthemums*. There were fine exhibition blooms of *Donald McLeod*, *Mary Inglis*, *Miss Violet*, *Leila Filkins*, *S. T. Wright*, *Cheltoni*, *Mrs. E. Thirkell*, and a great number of choice novelties—(Silver Banksian Medal).

Messrs. CUTRUSH & SONS, Highgate, London, N., and Barnet, Herts, showed a collection of alpine and

bulbous plants, among which were to be observed *Cheiranthus Allioni*, a yellow, dwarf-growing Wall-flower with orange-coloured blooms; *Chrysogonum virginicum*, *Saxifraga cymbalaria*, *Solidago virgaurea-prostrata*, *Primula acaulis rubra plena*, now almost bursting into bloom; a bright lilac-coloured *Veronica* named *Mont Rose*, *V. diosmæfolia*, *Crocus ochroleucus*, a species having very slender white flowers; *Campanula muralis major*, 4 inches in total height, with flowers of a shilling size and in colour blue; *Meconopsis nepalensis*, with leaves of a light green tint, with a white woolly tomentum on both sides; *Eupatorium Weinmannianum*, said to be hardy in this country; several *Spiræas*, *Pernettyas* in variety, *Ericas*, *Shortia galacifolia*, *Galax aphylla*, *Tritomas*, &c. (Silver Banksian Medal). They also staged a collection of cut blooms of choice Carnations, amongst which the splendid white flowers of the variety *Mrs. S. J. Brookes* were conspicuous.

THOS. CRIPPS & SON, nurserymen, Tunbridge Wells, showed a floor group of about forty plants of *Euphorbia pulcherrima*, consisting of clean, vigorous plants well furnished with leaves and surmounted with a good-sized head of bracts (Silver Banksian Medal).

Messrs. BARR & SONS, King Street, Covent Garden, showed a few spikes of *Iris stylosa*, *Schizostylis coccinea*, *Nerine aurea*, *N. undulata*, and *N. flexuosa alba*; and a panful of plants of *Solanum jasminoides* in flower, measuring 1½ foot high. They had been struck this autumn from cuttings, a capital method of cultivating this pretty white-flowered species.

Messrs. W. BULL & SONS, King's Road, Chelsea, showed a group of plants in bloom of *Epiphyllum delicatum*, a delicately tinted flower which has been described already.

Incurved *Chrysanthemums* were shown in really excellent condition by **J. B. HANKEY, Esq.**, Fetcham Park, Leatherhead (gr., Mr. W. Higgs). He had sixty blooms, which for size, form and general development surpassed most exhibits of the Chinese type that are seen. Mr. Higgs is quite the champion cultivator of incurveds—(Silver Flora Medal).

AWARDS OF MERIT.

Chrysanthemum Mrs. J. Dunn.—A first-class Japanese variety somewhat of the build of *F. S. Vallis*, colour pure white. Shown by **Mr. H. J. JONES**, Ryecroft Nursery, Hither Green, Lewisham, who had a few other novelties.

Chrysanthemum Dorothy Pywell.—A large white Japanese, with long narrow florets; colour white, with suffusion of sulphur-yellow in the centre. Shown by **Mr. SEWARD**, The Firs, Hanwell.

Chrysanthemum Lady Cranston.—Described as a sport from *Mrs. Barkley*, which it resembles greatly, though the florets appear longer; colour, white, with pink-blush on the younger florets. Shown by **Mr. R. C. MURRAY**, Blackford House, Edinburgh.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the Chair); and Messrs. Jas. O'Brien (Hon. Sec.), de B. Crawshaw, H. M. Pollett, H. Ballantine, Norman C. Cookson, J. Douglas, F. Wellesley, F. A. Rehder, A. Hislop, G. F. Moore, F. J. Thorne, J. W. Odell, W. Boxall, W. H. Young, M. Gleeson, H. Little, W. A. Bilney, W. H. White, and J. W. Potter.

Captain G. L. HOLFORD, C.I.E., Westonbirt, Tetbury (gr., Mr. H. Alexander), was awarded a Silver-gilt Flora Medal for a group of finely-grown Orchids, for three of which he secured awards (see list). The specimens shown consisted of the beautiful *Cypripedium* × *Leeanum*, Holford's variety, a plant with thirteen blossoms; *C. insigne* Harefield Hall, with eight large flowers; *C. insigne* Sanderae, the one with six and the other with seven flowers; three fine forms of *Cypripedium* × *Euryades*, raised at Westonbirt, aureum and Westonbirt variety being handsome and distinct, and *C. × Charlesianum* superbum.

Messrs. SANDER & SONS, St. Albans, secured a Silver-gilt Flora Medal for a fine group, in the centre of which was *Cattleya labiata* King Edward VII., a form with very large and well-shaped flowers of a bright magenta rose tint; the frilled lip massive, and of a ruby-crimson tint with a lighter coloured margin—a superb variety. The group contained among other hybrid *Cypripediums* *C. × Evelyn Ames*, *C. × gigas magnificum*, *C. × Memoria Moensii*, *C. × Hitchinsii*, *C. × Masters insigne*, a distinct cross between *C. Mastersianum* and *C. insigne*, the prevailing colour being greenish primrose marked with chocolate purple, and with a creamy-white tip to the dorsal sepal. Of sin-

gular and rare plants there were the pretty rose and white *Walwea pulchella*, *Bifrenaria racemosa*, and *Angraecum distichum*, and a good blue *Vanda coerulesa*, *Zygocloax* × *Veitchii*, and various *Odontoglossums*, one spotted *O. crispum* having very fine flowers.

Mr. J. CYPHER, Queen's Road Nursery, Cheltenham, was awarded a Silver-gilt Flora Medal for a very fine group of *Cypripediums*, the forms of *C. × Leeanum* and *C. insigne*, including the greater part of the best forms; a large number of varieties of the latter, from the beautiful yellow *C. i. Sanderae* and the numerous other yellow forms to the large and dark coloured *C. i. giganteum*, and *C. i. Harefield Hall*, forming quite a study. There were also shown plants of *C. × Leonie* and other hybrids, capitally grown and well staged.

F. A. REHDER, Esq., The Avenue, Gipsy Hill (gr., Mr. Norris), was awarded a Silver Flora Medal for a good representative group of *Cypripediums*, including his handsome dark coloured *C. × Ernesto* (villosum × *anethum* superbum), *C. × Mrs. Rehder* (Argus × *Rothschildianum*), a very beautiful and distinct hybrid, *C. insigne* Baron Schroder, a large flower approaching Harefield Hall, but with purple blotches beneath the white of the dorsal sepal. Others noted were *C. × Bruno*, *C. × ex Ianthe* (exul × *Ianthe*) and several dissimilar forms; *C. Sanderianum*, *C. × Minos*, *C. × Arthurianum*, and other hybrids, besides several yellow-flowered varieties of *C. insigne*.

Messrs. CHARLESWORTH & Co., Heaton, Bradford, secured a Silver Flora Medal for an excellent group, the most prominent plants in which were *Laelio Cattleya* × *luminosa aurifera*, with yellow sepals and petals, and purple and rose lip; *L.-C. × Irene* (*C. Bowringiana* × *L. tenebrosa*), a showy rosy-lilac flower, and *Cypripedium* × *Queen of Italy* (see Awards). The forms shown of *Laelia* × *Digbyano purpurata*, *L.-C. × Bletchleyensis*, *L.-C. × Wilhelmina* (*L.-C. × elegans* × *C. labiata*), *Cattleya* × *Enid*, *Sophro-Cattleya* × *eximia*, *Cypripedium* × *Thalia*, *C. × Leeanum magnificum*, *Miltonia vexillaria Leopoldi*, varieties of *Odontoglossum crispum*, *O. × Harryano-crispum*, and *O. × Hallio crispum*, *Lycaste* × *Tunstillii*, *L. × Ballii*, &c., were likewise remarked.

Messrs. HUGH LOW & Co., Enfield, showed an effective group for which a Silver Banksian Medal was awarded, which included *Cypripedium insigne* Sanderae, *C. i. Laura Kimball*, *C. i. Statterianum*, *C. × Leeanum magnificum*, *C. × Titus superbum*, *C. × Niobe*, *C. × Pollettianum magnificum*, *C. × Memoria Moensii*, *C. × Prewettii*, *C. × Muriel Hollington*, *C. × Swinburnei magnificum*, *Epidendrum osmanthum*, *Odontoglossum* × *Harryano-crispum*, and a flower of *Laelio Cattleya* × *Decia alba*.

Mr. H. WHATELEY, Kenilworth, secured a Silver Banksian Medal for a group of *Cypripediums*, a very fine one being *C. × Amy Robsart* (villosum × *nitens*), a large yellowish flower of the *C. × Sallieri* class, marked and spotted with chocolate purple and having a white band on the dorsal sepal; also found in the group were fine varieties of *C. × Leeanum*, *C. × Mme. Jules Hye*, *C. insigne* Harefield Hall, *C. i. Sanderae*, &c.

Messrs. JAS. VEITCH & SONS, Chelsea, staged a group of hybrids, including several forms of *Laelio-Cattleya* × *Dacia*, *L.-C. × Terentia*, *L.-C. × Ilione*, *Cattleya* × *Portia*, *C. × Elvina*, *C. × Apollo*, the singular-looking *Laelia* × *Omen* (purpurata × *anceps*), and the beautiful *Cypripedium* × *Thalia* (Baron Schroder × *insigne* Chantini).

FRANCIS WELLESLEY, Esq., Westfield, Woking (gr., Mr. Hopkins), sent *Cypripedium insigne*, Westfield variety, good in form and dark in colour; and the citron-yellow tinted *C. insigne* citrinum.

R. I. MEASURES, Esq., Camberwell (gr., Mr. Smith), showed *Cypripedium insigne* Egermanni Sanderae, like a rather small form of *C. insigne* Sanderae.

J. WILSON POTTER, Esq., Croydon (gr., Mr. Young), showed *Zygopetalum Murrayanum*.

H. S. LEON, Esq., Bletchley Park (gr., Mr. Hislop), sent *Cattleya* × *Comet* var. *Audrey* (Warneri × *Dowiana aurea*), sepals and petals greenish-primrose, lip purple, changing to rose at the apex; and *Cattleya* × *Preciosa* Hislopi (Lawrenceana × *Luddemanniana*).

Awards.

AWARDS OF MERIT.

Laelio-Cattleya × *Cassiope*, Westonbirt var. (*L. pumila* × *L.-C. × exoniensis*), from **Captain G. L. HOLFORD**, Westonbirt.—A fine flower; sepals and petals bright rosy-lilac; lip finely expanded, dark claret purple, with a lighter base, on which are some fine purple lines.

Cypripedium × *Leeanum* *Stafordianum*, from **Captain G. L. HOLFORD**.—A fine form, equal to the best *C. L. magnificum* in size, and of a rich dark colour; upper

sepal emerald-green at the base, with purple lines and dark median band; apical half pure white; petals and lip yellow tinged and marked with red brown, the surface very glossy.

Cypripedium × *Queen of Italy* (insigne Sanderae × *Godefroyae leucocillium*), from **Messrs. CHARLESWORTH & Co.**, Heaton, Bradford.—A beautiful hybrid, very similar to the fine *C. × Venus* illustrated in the *Gardeners' Chronicle*, February 8, 1902. Foliage greyish-green, slightly tessellated; flowers larger than those of *C. Godefroyae*; primrose colour, with minute purple dots on the petals and dorsal sepal. A very delicately-tinted and pretty hybrid.

CULTURAL COMMENDATION.

To **Mr. H. Alexander**, Orchid-grower to **Captain G. L. HOLFORD**, for a magnificent specimen of *Cypripedium insigne*, Harefield Hall variety, with eight flowers, grown from a small plant.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq. (Chairman); and Messrs. W. Bates, S. Mortimer, Jos. Cheal, Alex. Dean, W. Fyfe, Owen Thomas, Geo. Reynolds, J. Jacques, J. Willard, G. Norman, J. McIndoe, A. H. Pearson, George Wythes, and H. Markham.

A collection of 16 bunches of fine Grapes was shown by **Sir CHAS. RUSSELL, Bt.**, Swallowfield Park, Reading (gr., Mr. F. Cole). The varieties were Cooper's Black, Muscat of Alexandria, Black Alicante, and Mrs. Pince. The last-named variety was not well coloured, but all the rest were very good—(Silver-gilt Knightian Medal).

Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N., exhibited heads of Savoy, Williams' Conical, having nice close hearts of conical shape.

Mr. JABEZ AMBROSE, Cheshunt, again exhibited the new Black Grape "Melton Constable," and for comparison a rather inferior sample of Gros Colmar.

Mr. J. CROOK, Forde Abbey Gardens, Chard, showed some nice fruits of Apple Crimson King, rather flat-shaped fruits, highly coloured, hard, and a good keeper.

THE LONDON CORN EXCHANGE CHRYSANTHEMUM.

NOVEMBER 11.—This show, held in aid of the funds of the Corn Exchange Benevolent Society, was held on the above date, and as regards the quality of the blooms exhibited, was the best yet held under the auspices of the Society. The judge, **PERCY WATERER, Esq.**, of the Stock Exchange, had a very difficult task in allotting the prize for both the Silver Bowl and the Silver Cup, as the winner of the 2nd prize in each case ran the premier very closely.

W. R. CLARKE, Esq., and **F. W. SMITH, Esq.**, took all the prizes in the classes for the members of the Corn Exchange, while **Sir SWINFEN EADY** took four 1st, but missed the Cup, which fell to **CLAUDE CAYLEY, Esq.**, for non-members (amateurs). At 3.40 P.M. the blooms were put up for auction, **R. Godwin, Esq.**, of Mincing Lane, again acting as auctioneer. The sale realised the handsome sum of £13 1s. 6d. The thanks of the Committee of the Benevolent Society are due, and are tendered, to all the exhibitors who so kindly gave their flowers, and to **N. Sherwood, Esq.**, **D. M. Grimsdale, Esq.**, **Charles Denny, Esq.**, **Mr. M. Longman**, of 72, Mark Lane; **Messrs. Thos. Tiffin & Co.**, Cannon Street, Madame Butchart, of St. Swinith's Lane, who also gave flowers; **Messrs. Tilley Bros.**, of Brighton, who gave several parcels of bulbs; and **E. N. Watts, Esq.**, who gave Grapes. The boxes of Orchids from **D. M. GRIMSDALE, Esq.**, were very lovely, as also was the basket of Orchids and other flowers sent by **Madame BUTCHART**. The attendance at the show was larger than usual, and especially was this the case at the auction, the result no doubt of the splendid advertisement that was displayed on the clock of the Old Corn Exchange, for which the thanks of the Society are tendered to the Directors of the Corn Exchange Company. The sale was a marked success, thanks to the auctioneer, **Mr. Goodwin**, who has kindly given his services for several years past. The Secretary, **J. H. Mitchener, Esq.**, is to be congratulated on the success of the show. *London Corn Circular*, November 19.

LIVERPOOL HORTICULTURAL.

NOVEMBER 11, 12.—This association held its twenty-fifth annual show in the Drill Hall, Botanic Road, on the dates given. The principal attraction was the Challenge Cup class for twenty-four each Japanese and incurved, distinct varieties, six stands being staged. The premier stand came from **Mr. E. ELLIS**, of Riverview, Heswall, a gentleman who some few years ago commenced their cultivation as a hobby rather than with the intention of exhibiting. The stand was, for colour, freshness, and quality, as good as could be desired;

Mr. S. G. WILLIAMSON (gr., F. Young), Otterspool House, was a very fine 2nd.

For eighteen blooms of Japanese varieties the competition was keen, and flowers of great merit were shown by Mr. E. CLARKE (gr., A. Clarke), Aigburth, who was 1st with very fine blooms; 2nd, Col. T. GEE (gr., P. Greene), Allerton. For eighteen incurved varieties the latter gentleman gained an easy victory.

In the classes for twelve Japanese and twelve incurveds, Mr. CLARKE was 1st with high-class blooms; in each case being followed by Dr. COOKE (gr., G. Osborne), The Brook House.

Reflexed varieties were not striking, but Pompons made a capital display, Mrs. FINDLAY (gr., W. Wharton), Seiton Park, taking each class.

There was a strong competition for the six vases of three blooms each, Mr. C. J. PROCTER (gr., J. Williams), Boscebol Nocturnum, leading with magnificent blooms, and Mrs. FINDLAY was a good 2nd.

Mr. PROCTER had also the 1st prize basket, a charming combination of yellow single and reflexed varieties, interspersed with light yellow and green-leaved Crotons, and Smilax, and Asparagus.

Table decorations formed a large item, Mrs. VLASTO taking 1st prize, and, as some thought, improperly.

PLANTS.

Trained and staked plants have decidedly improved, Mrs. KITCHEN (gr., J. Rose), West Derby, having four fine large-flowered plants; and Mr. H. CUNNINGHAM was 1st for Pompons. The best six naturally trained plants came from Mrs. FINDLAY.

The miscellaneous plants were very numerous—viz., Begonia Gloire de Lorraine, Cyclamen and Orchids, Euphorbia pulcherrima more than a foot high, furnished with six bracts, was in superb condition, from Mr. HITCHMAN; while the Fruit classes, excepting those for hardy fruits, were numerous filled with exhibits of high quality.

WIMBLEDON CHRYSANTHEMUM.

NOVEMBER 17, 18.—One of the latest Metropolitan shows, this was held in the Wimbledon Drill Hall on the above dates, plants of very excellent quality being staged.

Groups were, for so late in the month, very good; the one arranged by Mr. C. Pullen, gr. to P. B. FORES, Esq., Raynes Park, having capital blooms and well-foliaged plants; Mr. A. Smith, gr. to Madame STUART, The Convent, Roehampton, was 2nd.

Of miscellaneous groups a very nice arrangement was that set up by Mr. R. Bradford, gr. to E. H. BROWN, Esq., Roehampton; Mr. THORNTON was 2nd.

In the section for cut blooms the finest display was made by a class for twenty-four Japanese set up in vases in trebles. There were six collections, the best coming from an old grower, Mr. J. Gibson, gr. to J. WORMALD, Esq., Morden Park. Mr. GIBSON was again a good 1st with twenty-four incurveds, also set up in vases in trebles.

Baskets of Chrysanthemums were a great feature, there being three classes, and numerous competitors. The best came from Mr. A. H. BURGESS, Wimbledon.

Winter Begonias were in strong force; the best-flowered plants, although rather too dwarf, came from Mr. J. Everitt, gr. to J. F. SCHWANN, Esq., Wimbledon; Mr. BRADFORD coming 2nd.

Mr. F. Goddard, gr. to W. J. LANCASTER, Esq., Putney Hill, had the best six of numerous table plants; Mr. GILL showed the best berried Solanums, and Mr. C. JONES put up the best six Chinese Primroses.

Fruit was not shown largely. There were numerous baskets of excellent vegetables.

Messrs. D. S. THOMPSON & SONS, Wimbledon, had very effectively dressed the platform with decorative plants, and Mr. J. NASH, florist, put up a charming group of flowering and foliage plants.

ULSTER HORTICULTURAL.

NOVEMBER 17, 18.—This comparatively young but enterprising Society takes rank, as far as its autumn exhibition is concerned, with the leading Societies of the country. It is gratifying to see how, through the energy of the Committee, consisting of a few experienced horticulturists and shrewd business men, the show has been raised to so great a pitch of usefulness. The show is held in the St. George's covered market, Belfast, which affords an ample area for the exhibits and for visitors to promenade in large numbers. The Society is popular with all classes in Belfast, and its influence is apparent in the increasing critical interest which the public display each year in Chrysanthemums, hardy and hothouse fruit, butter, and farm and garden produce generally.

A finer stand of twenty vases Japanese Chrysanthemum blooms, in three blooms of twenty varieties, has never been seen in Belfast than that exhibited by Capt. A. STIRLING Keir, Dunblane (gr., Mr. T. Lunt); nor have finer displays of fruits been observed than those staged by the two nursery firms of DICKSONS.

There were also magnificent floral displays set up by Mr. F. E. SMITH & Co., and Messrs. ALEXANDER DICKSON & SONS; whilst the very choicest of groups, arranged in the most artistic manner by Mr. HUGH DICKSON'S son, and softly lighted by small coloured electric lamps, attracted a crowd at all times—nothing to equal it had ever been placed before the admiring public in Belfast. The arrangement and blending of the colours of the Orchids, the Lilies, Begonias and foliage were beyond all praise.

Perhaps in no department of work has the Society done more useful work than in bringing into the notice of the public the superior and more productive varieties of Apples. The possibilities of Ulster as a fruit-growing country are being proved more strikingly every year. It is safe to say that the Irish fruit exhibited at this show would hold its own against the products of any part of the three kingdoms, and it is a pity Irish growers cannot be persuaded to bring their produce to the great autumn show of the Royal Horticultural Society at Chiswick. The twenty-four dishes of culinary Apples and six dishes of Pears shown by Mr. Harding, gr. to Lieut.-Gen. PAKENHAM, would require some beating.

Decorated tables of fruit were good, the best going to the Marquis of DOWNSHIRE (gr., Mr. Bradshaw), and the 2nd to Lieut.-Gen. PAKENHAM.

The Farmers' classes for Apples showed great improvement, and fruit-growing is evidently progressing in the Emerald Isle. Roots were a great feature, both for large size and good quality. Potatoes as shown were clean and good, although a good many tubers in some collections erred on the side of coarseness.

Butter is an important exhibit at the shows, many of the leading creameries of the country, as well as the local butter-makers, sending exhibits. W. C.

BRISTOL CHRYSANTHEMUM.

NOVEMBER 18, 19.—This one of the oldest Chrysanthemum Societies in the kingdom, held its fortieth show in the Colston Hall, and proved to be in every way a successful one. The groups and blooms were of a very high order of merit and the classes for the latter especially were particularly well filled. The leading group of Chrysanthemums arranged by Mr. McCULLOCK, and that also of Chrysanthemums combined with ornamental foliage plants, which was set up by Mr. BANNISTER, were excellent from every point of view, while Mr. VALLIS'S thirty-six blooms of Japanese varieties, which secured for him the Society's Vase, of the value of 12 guineas, and amongst which a grand one of F. S. Vallis won the National Chrysanthemum Society's Silver Medal, as the best bloom in the show, were equal to his best efforts.

Grapes and other fruits were largely staged, but collectively they were scarcely up to the usual quality observed at Bristol. A centre table, reaching nearly to the length of the Hall, filled with fine specimens of Palms, ornamental foliage plants, Ferns, &c., for which classes were provided, made an imposing feature.

Groups of Chrysanthemums, arranged in a space of 50 sq. feet.—Mr. J. McCULLOCK was 1st, amongst three exhibitors with tastefully arranged and finely grown plants, edged with Maidenhair Fern; Mr. Harford, gr. to V. BARNARD, Esq., was 2nd; and Mr. Parrett, gr. to W. H. BUTLER, Esq., with good dwarf plants, was 3rd.

Chrysanthemums arranged with foliaged plants in the same amount of space. The leading exhibit consisted of suitable plants shown by Mr. BANNISTER, and Mr. H. T. CURTIS was 2nd.

Miscellaneous plants in 30 sq. feet.—Five fine groups were set up in this class, and Mr. CURTIS, who was 1st, made free use of Dendrobium Phalaenopsis Schoderianum, Cattleyas, Salvia splendens, and Callas, combined with suitable ornamental foliaged plants, edged with Begonia Gloire de Lorraine and variegated Euallia; and Mr. McCULLOCK, was a good 2nd.

Plants.—There were three classes devoted to Chrysanthemums, and each was filled with plants of middle-size. The winner of the 1st prize for three varieties being Mr. S. Cole, gr. to Sir CHAS. CAVE, who staged C. H. Curtis, Mr. T. Carrington, and Simplicity; Mr. WEST was placed 1st both for a large-flowered and a Japanese variety.

Blooms, thirty six Japanese, not fewer than twenty-four varieties.—Here, as has been stated, Mr. VALLIS, of Chippenham, was 1st, showing a meritorious number of brightly-coloured blooms of F. S. Vallis (which was selected as the best bloom in the show), Mons. Remy, Mrs. Vallis, Mme. Herreweghe, Mr. T. Carrington, General Hutton, &c.; 2nd, Mr. May, gr. to H. O. LORD, Esq.

Twelve blooms, Japanese.—This was also a good class and there were six entries. Of these Mr. G. H. Baker, gr. to Dr. COPPER, was 1st with W. R. Church, J. R. Upton, Mne. P. Radaelli; 2nd, Mr. A. E. Reaks, gr. to W. A. F. POWELL, Esq.

Twenty four blooms, Incurved varieties.—Here there were only two exhibitors, and of these Mr. DRAKE, the well-known Cardiff grower, was a capital 1st, with beau-

tifully finished flowers of Frank Hammond, Perfection, Nellie Southam, Miss Nellie Threlfall, &c.; Mr. G. RUNNACLES was placed 2nd with good blooms.

Twelve blooms, Incurved.—Of the eight competitors in this class, Mr. BAKER was 1st with fresh blooms of Mrs. F. Judson, C. H. Curtis, Countess of Warwick, Miss Nellie Southam, &c.; 2nd, Mr. E. A. PARSONS.

Anemone, twelve blooms.—Mr. G. W. E. Hack, gr. to Mrs. PETHICK, was 1st, and staged Mr. P. Dann, W. Astor, Owen's Perfection, Le Chalonais, Delaware, and Mrs. H. Gardener; 2nd, Mr. HOBBS, T. C.

[The crowded state of our columns does not admit of the smaller classes of Chrysanthemums, of Orchids, Fruit, Vegetables, or of Trade Exhibits being reported. Reports from many of the smaller Societies are also crowded out. Ed.]

LINNEAN.

NOVEMBER 19.—Prof. S. H. Vines, F.R.S., President, in the Chair.

The Rev. R. ASHINGTON BULLEN, F.L.S., brought for exhibition an albino mole, from a farm near Bagshot; it was wholly of a light-fawn colour, and no similar specimen had been seen for at least twenty years, though many moles had been trapped on the same farm.

Dr. M. T. MASTERS, F.R.S., F.L.S., gave an abstract of his paper, "A General View of the genus Pinus," which was illustrated by specimens of cones, and lantern-slides. He stated that the object of the paper was to discuss the nature and value of the characters made use of in discriminating the various species of Pinus, and to supply additional points of distinction derived from the anatomical structure of the leaf and other sources. Reference was made to the tegumentary, mechanical, and other leaf-tissues, to the position of the resin-canals, the number of cells in the endoderm-layer, the shape of the central half-cylinder or "meristele," the simple or branched condition of the fibro-vascular bundle, &c. A comparison was made in many cases between the perfected structure of the adult foliage and the imperfectly developed arrangement in the cotyledons and in the primordial leaves.

By the aid of the "characters" above mentioned, together with those derived from the bud-scales, the number of leaves in the fascicle, the conformation of the male flowers, and of the cones and cone-scales, the author has framed an analytical table of the species, which, although mainly artificial, may be of assistance hereafter in facilitating the determination of the species, and in arranging them in more natural groups. The two main divisions adopted are the thin-scaled Pines or Tenuisquamæ, and the thick-scaled Pines or Crassisquamæ, according to the relative thickness of the cone-scales. With these are associated so many other differences that the groups in question appear to be natural. Further subdivisions are founded on the points of distinction previously mentioned. Notes are supplied relating to each of the seventy or more species, and intended to be complementary to the descriptions already published. Bibliographical details and references to figures are given when deemed desirable.

In the discussion which followed, Mr. A. C. SEWARD, Dr. D. H. SCOTT, Mr. W. C. WORSDELL, Dr. A. B. RENDLE, Dr. A. HENRY, and the President took part, Dr. MASTERS replying to the various questions which had been put.

The second paper was by Miss MARGARET BENSON, D.Sc., and Miss ELIZABETH SANDAY, B.Sc., entitled, "Contributions to the Embryology of the Amantiferae, Part II., Carpinus Betulus," which was communicated by Professor F. W. OLIVER, D.Sc., F.L.S., and in the absence of the authors was read by him. The material was collected during the first half of July, 1902, and the authors had the advantage of consulting Miss Sargent as to the best methods of fixing and embedding. Above 500 accurately orientated, stained and mounted series of sections were obtained through ovules containing the earlier stages in the development of the numerous embryo sacs, until the segmentation of the definite nucleus and of the egg occurred. Former observations (see Part I., in *Trans. Linn. Soc.*, Ser. 2, Bot. iii. (1894), pp. 409-424) were confirmed, and the following new facts obtained. The polar nuclei meet at the neck of the cæcum, descend together, and ultimately fuse near its base. The pollen-tube enters the sac in their vicinity, and provides some means of exit for one male gamete which seems to be emitted into the cæcum and makes its way to the definitive nucleus. Meanwhile the other male gamete is carried up by the tube and emitted into the substance of the egg, with which it fuses after a short delay. A wall is now formed round the egg, and when a considerable amount of endosperm is present, segmentation of the egg commences.

The authors discuss Mr. Frye's work on Casuarina, and point out that in the present condition of our knowledge the two genera are shown to be very nearly allied, and the Cohort Vericillatæ in Engler's *Syllabus der Pflanzenfamilien*, 1903, might be subordinated to the family Betulaceæ as a subfamily Casuarinæ.

A short discussion followed, in which Mr. A. C. SEWARD and Dr. D. H. SCOTT joined, and Professor OLIVER replied.

SCOTTISH HORTICULTURAL.

NOVEMBER 19, 20, 21.—This important exhibition was held in the Waverley Market, Edinburgh, which, though somewhat less well filled with exhibits than it has been in some more favourable years, contained nevertheless a show that was highly satisfactory to all concerned. Cut blooms were the strongest feature of the show, and these were all staged with long stems, in vases, three in each. Many of the flowers were young, and might well have remained a week or ten days longer in the privacy of their respective homes before making their debut in public, but it was a fault easy to overlook.

The class in which the City of Edinburgh Queen Victoria Memorial Prize is offered, retains the place of honour. It is open to all, and calls for twenty vases of Japanese blooms in twenty varieties, three blooms of each; 1st prize, plate of the value of £20 with £10 in money added, presented by the municipal authorities; 2nd, £20; 3rd, £15; 4th, £10; 5th, £5. Five exhibitors staged, and for the first time since these prizes were offered, Mr. LUNT, of Keir Gardens, was defeated by an old opponent, Mr. D. NICHOL, gr. to J. W. BELL, Esq., Rossie House, Forgandenny, Perth; Mr. THOS. LUNT, gr. to Captain MAXWELL-STIRLING, Keir House, Dunblane, being 2nd. Mr. NICHOL'S blooms were characterised by evenness and high quality throughout. In Mr. LUNT'S were some better blooms, but they were less equal. The 1st prize collection comprised these: *Back row*: H. STOWE, F. S. VALLIS (extra good), Mme. Paola de Radaelli (extra good), Mrs. R. Carberry, Mrs. F. S. VALLIS (extra good). *Middle row*: Duchess of Sutherland (very weak), Miss Olive Miller, Miss A. Byron (extra good), Lady Conyer, Bessie Godfrey (very fine), Mrs. Barkley, and a really fine E. Shrimpton. *Front row*: Mme. Gustavé Henry, Mrs. Geo. Mileham, Lord Ludlow, Nellie Pocket, Mrs. Bryant, Geo. Lawrence, and J. R. Upton.

In Mr. LUNT'S exhibit were extra fine examples of Miss E. Fulton, M. Louis Remy, Mrs. Barkley, Bessie Godfrey, Exmouth Crimson, Australia, and Mrs. E. Hummel; with a lot of weighty and fresh blooms, Mr. BEISANT, Castle Huntly, was 3rd; Mr. MARTIN, Corn-dean Hall, Winchcombe, Gloucester, 4th; and Mr. R. KENYON, Monkham, Essex, 5th.

Class 2 is a novel one, inasmuch as it is "confined to growers within the municipal boundaries of Edinburgh and Leith." It is called the "Scottish Horticultural Association Queen Alexandra Prize," and is offered for twelve vases of Japanese Chrysanthemums, three blooms of each; 1st prize, £15; 2nd, £10; 3rd, £7 10s.; 4th, £4. There were four entries, and considering the flowers were the produce of plants grown within the city, they proved the adaptability of the Chrysanthemum as a town plant. Mr. CAVANAGH, St. Edward's, Murrayfield, secured 1st prize; Mr. J. FRASER, Kilrarock, 2nd; Mr. W. LAMOND, Brightlea, Colinton Road, 3rd; and Mr. MURRAY, Blackford House, Murrayfield, 4th.

Class 3 was confined to Scottish growers, "The Scottish Challenge Cup," for twelve vases of Japanese Chrysanthemums in twelve varieties, three blooms of each; 1st prize, Cup and £10; 2nd, £5; 3rd, £7; 4th, £5; 5th, £3. There were only three competitors, the 1st prize being awarded to Mr. NICHOLSON, gr. to G. A. WHITEHEAD, Esq., Strathallan Castle, Perthshire, for a good lot of blooms, of which the more noteworthy were J. R. Upton, Miss O. Miller, Florence Molyneux, Kimberley, Princess Brancovan, and Mafeking King; 2nd, Mr. CUMMING, Grantully Castle; and 3rd, Mr. NORMAN, gr. to Earl of MAR and KELLIE, Alloa House, Alloa.

In Class 4 for six vases of six Japanese varieties, three blooms of each, there was a keen competition, nine staging capital collections. A Silver Medal with £1 was the 1st prize, and this was secured by Mr. BEISANT; 2nd, Mr. LUNT; 3rd, Mr. NICOLL; and 4th, Mr. NORMAN.

In Class 5, for two vases containing six Japanese blooms, one variety, three in each, for which thirteen staged, Mr. SIMPSON, Wemyss Castle Gardens, was 1st with Bessie Godfrey, fine; 2nd, Mr. Kidd, gr. to Lord ELPHINSTONE, Carbery Tower, Musselburgh, with Miss E. Mileham; 3rd, Mr. KENYON, with Mme. C. de Lèche.

There were twelve exhibits of collections of four vases containing twelve Japanese blooms, distinct varieties, three blooms of each, Mr. NICHOLSON being a good 1st with Bessie Godfrey, Australia, Ethel Fitzroy, Mafeking Hero, J. B. Upton, Kimberley, Mme. P. Radaelli, Princess Brancovan, F. Molyneux, Mrs. Geo. Mileham, Mr. J. Bryant, and Miss O. Miller. 2nd, Mr. NICHOL; 3rd, Mr. CUMMING.

From the three classes immediately following, competitors in the preceding ones were excluded. There were nineteen exhibitors in a class for four vases of Japanese in four varieties, three blooms of each. 1st, Mr. LUMLEY, Broomhall, Dunfermline; 2nd, Mr. BRUCE, Seafield, Ardrossan; 3rd, Mr. K. MACKENZIE, Cambus, Alloa.

In the following class, for two vases of Japanese blooms, distinct, there were twenty-four exhibitors. Mr. R. BRUCE won 1st prize; Mr. J. WALDIE, Dollarbeg, Dollar, 2nd prize; and Mr. T. BAIRD, Arnsbrae, Cambus, 3rd prize.

The best six blooms of a Japanese variety were shown by Mr. HALL, Williamwood, Thornliebank; and the best six blooms of an incurved variety by Mr. JOHN BUSHER, Aikenhead, Cathcart, with fair blooms of James Agate.

Class 13 was for two vases of incurved blooms, distinct varieties, three blooms of each. 1st, Mr. MARTIN.

In Class 14 the prizes were presented by Mr. Godfrey, Exmouth, for four vases containing not fewer than six varieties of Japanese, three blooms in each vase, novelties introduced from Exmouth, Mr. LUNT acquiring 1st prize; and Mr. MURRAY, the only other exhibitor, 2nd. The Silver Medal for the best Japanese bloom in the above classes was won by Mr. LUNT; in the amateur section by Mr. STEWART, Alloa; and for incurved by Mr. MARTIN, Corn-dean Hall. Mr. MURRAY, Blackford House, secured 1st prize for the best variety not in commerce; Mr. WELLS, Earlswood, Surrey, being 2nd in the same class.

POT PLANTS.

In this section there was a very superior lot of trained plants, attributable, as it was said, largely to the fact that competitors are now restricted to growing one plant only in each pot. The most successful grower was Mr. Pullman, gr. to D. HUIE, Esq., Colinton Road, Edinburgh, who secured 1st for respectively six Japanese, six not disbudded, one white, one yellow, one single, and a Medal for the best plant in the show. Other successful growers were Mr. D. CAVANAGH, Mr. HOLMES, Winton Castle, and Mr. Michie, gr. to Sir I. STEEL, Broughfield. In addition to these, £10, £7, and £5 prizes were offered for groups 20 feet by 10 feet, arranged on the floor. The prizes were awarded, but no tickets had been attached late in the afternoon, though it was understood that Mr. Wood, Canaan Lane, was a prize-winner. Zonal Pelargoniums were remarkably well shown in 6-inch pots, Mr. MACGREGOR securing 1st for six plants, also Gloire de Lorraine Begonias; Mr. HUGHES, King's Meadows, Peebles, securing 1st for six plants.

FRUIT.

The best fruit shown was in the fairly large exhibits of Grapes. Mr. LESLIE, Pitcullen House, Perth, showing in the four-bunch class fine examples of the varieties Diamond Jubilee, Alicante, Muscat of Alexandria, and Alnwick Seedling. Gros Colmar and other varieties were also well shown in classes for two bunches, Messrs. LUNT, KIDD, LESLIE, and BUCHANAN, Bargany, being the chief contributors. Only one collection of eight dishes was shown, that being from Mr. KIDD, to whom the 1st prize was awarded. Of Apples there was a small display, and of Pears very few.

VEGETABLES.

were as usual well shown. Mr. WALDIE, Dollarbeg, Dollar, securing 1st prize both for ten and eight kinds with very good produce. Other successful exhibitors included Mr. HARPER, Tullicolton, Perth; Mr. WALDIE, The Whins, Alloa; Mr. BAE, Sunlaws, Kelso; Mr. PITT, Eccles; Mr. STEWART, Thiristane Castle, &c.

MISCELLANEOUS EXHIBITS.

As usual there was a very large and representative gathering of nurserymen, each with his speciality. A specially attractive group of cut Chrysanthemums from Mr. GODFREY, Exmouth, secured a Silver Medal. Mr. WELLS, Earlswood, Surrey, had a like award for a smaller but no less interesting collection.

Messrs. SUTTON & SONS, Reading, had an attractively arranged table, mainly of vegetables, in which sixty-five varieties of Potatoes formed the outstanding feature, the novelties Discovery and Northern Star being both shown. A Gold Medal was awarded.

Messrs. R. B. LAIRD & SONS, Pinkhill, set up one of their well-known groups of tall spreading Palms and smaller-flowering plants effectively arranged (Silver Medal).

Certificates of Merit were awarded respectively to Mr. CUTBERTSON, Rothesay, for Chrysanthemums and herbaceous plants; to Mr. FORBES, Hawick, for Begonias and other flowers; to Mr. DOWNIE, Murrayfield, for a grand show of Begonias in variety; to Messrs. AMBROSE & SON, Cheshunt, for Lilliums, Carnations, and Melton Constable late Black Grapes; and to Mrs. BOYES, Leicester, for Carnations.

The following exhibits are also deserving of notice:—A collection of sixty-five sorts of Apples and Pears of excellent merit, from Messrs. G. BUNYARD & SONS, Maidstone; a large collection of Apples and Pears, with Grapes and Pineapples, from Mr. WHYTECK, Dalkeith Gardens; Messrs. DAVIE & CO., Haddington, Potato novelties; Messrs. LAING & MATHER, Kelso, some grand samples of the Lyon Leek and Potato Northern Star; and Messrs. TODD & CO., florists, a variety of novel applications of flowers in cushions, crosses, nosegays, and an animated grandfather clock in Chrysanthemums, Roses and Violets. The £20 offered for these was certainly well won.

Mr. TODD as usual had a stall in which flowers, &c., were sold for the benefit of The Gardeners' Orphan Fund.

NATIONAL CHRYSANTHEMUM.

FLORAL COMMITTEE.

NOVEMBER 23.—This was the last of the meetings arranged to be held at the Essex Hall, and there was a fair number of novelties staged.

First class Certificates of Merit were awarded to—

Japanese, Lady Cranston.—A very fine, full, large, broad-petalled white variety, but having a distinct flush of rosy-pink in the centre. It originated as a sport from Mrs. Barkley with Mr. R. E. N. MURRAY, Blackford House, Edinburgh, and will be distributed by Mr. W. J. GODFREY, Exmouth.

Japanese, Dorothy Pywell.—A large, full, deep, well-proportioned flower; white with a suffusion of delicate sulphur-yellow in the centre, long, narrow florets. From Mr. WM. SEWARD, The Firs, Hanwell.

Single, Pink Pet.—This was shown under the name of Little Pet, but the Committee, having classified it by placing it among the large flowered singles, altered the name to Pink Pet. It is bright pink in colour, with a narrow band of white round a yellow disc. From Messrs. J. PEED & SONS, West Norwood.

The next meeting of the Floral Committee will be in connection with the Late Show at the Crystal Palace, Sydenham, on December 8.

A meeting of the Executive Committee was held at Carr's Restaurant, Strand, at 7 P.M. on the 23rd inst., Mr. THOS. BEVAN in the chair. The secretary reported that Miss Anstey, West Norwood, who was awarded the Waterer Challenge Cup in Class 58, called upon him on the Saturday morning following the show to say she had discovered she was not an amateur, as required in Division B.; that she had entered without having read with sufficient care the conditions attaching to the competition, and having discovered her error, she was anxious to acknowledge it, and to leave herself in the hands of the committee. The secretary further stated that the entry form contained no indication that Miss Anstey was not qualified to exhibit in that class; nor had he any knowledge of her being a professional florist. He had submitted the matter to the Finance Committee, and they recommended that the Cup should be awarded to Mrs. Crane, who had been placed 2nd; and in consideration of Miss Anstey's action in making the error known, that a small silver medal be awarded to her table of blooms. This was agreed to unanimously.

The prize-money awarded at the November show was £188 5s. 6d., with medals to the value of £9 17s. 6d., making a total of £198 3s. An interim financial statement was submitted, showing a balance at the bank of £181 3s., and this was supplemented by a further statement up to the end of November, showing that when the payment of £10 due from the Crystal Palace is received and certain special prizes, and when all liabilities are cleared off, there would be a balance in hand of something like £80, which was considered highly satisfactory.

Mr. C. H. PAYNE, together with Messrs. BEVAN and Withy, who formed a deputation from the Society to the recent exhibition of the French National Chrysanthemum Society at Lille, made brief statements in relation to their visit, and Mr. PAYNE laid upon the table a massive Silver gilt Medal awarded to the National Chrysanthemum Society by the French National Chrysanthemum Society.

It was resolved that the November show in 1904 take place on November 2, 3, and 4, the general opinion favouring an early date. The officers were appointed as a deputation to wait upon the directors of the Crystal Palace Co. as to arrangements in 1904. It was also resolved that three meetings of the Floral Committee be held at the Essex Hall in 1904, the members of the Floral Committee speaking in the highest terms of the suitability of the place, the dates of the meetings to be Mondays, Sept. 19, Oct. 24, and Nov. 21; the meetings of the Executive Committee to be Sept. 19, Oct. 24, Nov. 21, Dec. 12, and Jan. 16, 1905.

Some criticism of the new Catalogue was made by the representative of the Dulwich Society, and it was resolved that the question be referred to the Classification and Catalogue Sub-committee, with a view to the preparation of a supplemental list of varieties omitted, which could be published in the next Annual Report. Eighteen new members were elected.

ANNUAL DINNER.

NOVEMBER 25.—The annual dinner of the National Chrysanthemum Society took place, on Wednesday evening last, at the Holborn Restaurant, London, when a very large company gathered. The new President, Chas. E. SHEA, Esq., presided, and was supported by Mr. Haywood, Woodhatch Lodge, Reigate, and most of the leading members of the Society, accompanied in some instances by ladies and visitors.

After the Royal toasts had been honoured, the CHAIRMAN proposed the toast of the National Chrysanthemum Society. He recalled instances in the history of the Society that he thought ought to be remembered on such occasions. It was in 1846 that a little knot of men met in the Amhurst Arms, Stoke Newington, when Robert James, the plover, and

others, established a Chrysanthemum Society. It was next to impossible during the following years to stage a collection of twenty-four varieties, and in a class for as many blooms eight duplicates were allowed. In 1852 and 1854 things appeared to be getting critical, said Mr. Shea, for the Committee commenced to present testimonials to its officers. The Society, however, survived and flourished, and other societies arose and imitated it. In 1874 the title became the Stoke Newington and Hackney Chrysanthemum, and in the following year was altered to that of the Borough of Hackney Chrysanthemum. The next important event was that Mr. R. Ballantyne became a member of the Society, and he was present that night. The first show in the Royal Aquarium was held in 1877. In the following year Mr. Holmes became the Society's secretary, and a most valuable servant he was. The next event worth recalling, said the Chairman, was perhaps the most important event of all, namely, that of calling the Society the National Chrysanthemum Society, in 1884. This was done, said Mr. Shea, on the proposition of Mr. Henry Cannell, and the idea was a stroke of genius. Since that time the influence of the Society upon the Chrysanthemum had been most marked. It had spread to Australia, to other colonies, and over the world, especially in France, Germany, and America. Mr. Harman Payne joined the Society in 1884, and subsequently a *Catalogue* was published; and the first President, Lord Brooke, was appointed, who was subsequently succeeded by Sir Edwin Saunders. Then came the death of Mr. Holmes, which at the time appeared to be an irreparable loss; but events proved again that no individual is indispensable, and Mr. Richard Dean has filled the place with distinction. After a time there was the Jubilee celebration. Last year, owing to the purchase of the Royal Aquarium by the Wesleys, the Society became homeless, and the Crystal Palace was its refuge this year. Mr. Shea thought it to be a crying shame that there is no large hall in London that would hold such a show. The new Hall of the Royal Horticultural Society, he said, will obviously be too small for their show and the visitors thereto. Then Mr. Shea proceeded to refer to the question of "size," and said that in a horticultural journal recently there appeared over well-known initials, the statement that "Chrysanthemums have depraved public taste!" But, said Mr. Shea, is size a crime, even when accompanied by beauty and refinement? However, size, said Mr. Shea, must not be an excuse for coarseness.

Mr. HENRY CANNELL responded, and gave some very interesting reminiscences of Chrysanthemum history since 1853. Coming to modern times, Mr. Cannell welcomed the change from the Aquarium to the Crystal Palace, and said there was such a field between Dartford and Putney in which to recruit exhibitors, he had no doubt but better shows would be held at the Palace than any yet held.

The toast of the "President, Vice-Presidents, Officers, Committee," &c., was proposed by A. BYRNS, Esq., who having known Mr. SHEA, the President, for twenty-five years, was able to give the company some personal testimony to his excellent qualities and successful Chrysanthemum culture. The President in reply cordially thanked the Society for unanimously electing him to the highest office. He related some of his experiences as an exhibitor, and from these details it was obvious that in Mr. SHEA, the Society has a President that knows and has carried out with his own hands every detail in the cultivation of Chrysanthemums from striking the cutting to taking 1st prize for a collection of forty-eight blooms at the Aquarium. In 1891, his last year of exhibiting, Mr. SHEA grew 286 plants, including representatives of every section. With these plants he won 1st prize for forty-eight blooms at the Aquarium, 1st prize for eighteen blooms at the Crystal Palace, and prizes at Watford and other places.

Mr. THOMAS BEVAN, Chairman of Executive Committee, also responded, and stated that in 1895 he exhibited at the Aquarium 333 varieties of Chrysanthemums representing every section. The next toast was "The Donors of Special Prizes," proposed by Mr. TAYLOR, Treasurer, and responded to by Mr. D. MCCORQUODALE, of Messrs. McKENZIE & Moncur, Ltd.

Mr. J. H. WITTY, proposed "The Affiliated Societies," and after making some opportune remarks upon the subject, gave the company some particulars of the show the deputation had recently visited at Lille and in Paris. The response was by Mr. C. HOPKINS, Chairman of the East Ham Chrysanthemum Society.

Mr. C. HARMAN PAYNE proposed "The Chairman," and the CHAIRMAN proposed "The Visitors," to which toast Mr. GEO. SCHNEIDER, President of the Société Nationale d'Horticulture de Londres, replied. The concluding toast of "The Press" was proposed by Mr. J. MCKERCHAR, and responded to by Mr. R. HOOPER PEARS.

An interesting ceremony was the presentation of the trophies, cups, &c., that were won at the recent exhibition:—The Challenge Shield to Mr. Dewar, who received it on behalf of the Epsom and District Chrysanthemum Society, which has won the Shield for the second year in succession; the Holmes Memorial Cup to Mr. Higgs, gr. to J. B. Hankey, Esq., Fetcham Rectory; and Mr. Mease, gr. to A. Tate, Esq., Downside, Leatherhead; and a Silver Tea Service presented by Messrs. McKENZIE & Moncur, in a class for incurved blooms shown in vases, won by Mr. Higgs. There were several other special prizes and medals, but the exigencies of time and space forbid further details.

ANSWERS TO CORRESPONDENTS.

EDITOR AND PUBLISHER.—Our correspondents would obviate delay in obtaining answers to their communications, and save us much time and trouble, if they would kindly observe the notice printed weekly to the effect that all communications relating to financial matters and to advertisements should be addressed to the PUBLISHER; and that all communications intended for publication, or referring to the literary department, and all plants to be named, should be directed to the EDITOR. The two departments, publishing and editorial, are quite distinct, and much unnecessary delay and confusion arise when letters are misdirected.

BALLAST-MAKING: W. C., *Saxmundham*. Let fires be started at 30 feet apart, with plenty of wood and small coal, and when well alight gradually make the heaps bigger by adding clay or clayey loam and coal, the latter in just sufficient quantity to keep up combustion. The heaps may be made 6 to 8 feet high. The winter is usually the season chosen for the job.

CARNATION: H. Elliott. The flower which you send for our inspection is well formed, full, large in size, the tint the same as "The Churchwarden," and very fragrant. The calyx is apparently not liable to burst. Altogether a very desirable winter-flowering variety.

CARNATIONS: D. H. R. There is no disease, but the plants have been very badly cultivated, and the growth is attenuated and weak. The small black-headed "worms" we will name for you if you will send fresh ones. Those put into an envelope came in a flattened condition through the post. Please put the others in a small box. Carnations should be grown cold, fire-heat being used only when frost is very severe or when it is seen that they are suffering from damp. The tree varieties are rather more delicate, and if wanted in bloom early, they may be afforded a temperature a few degrees higher than that of the greenhouse. Do not apply water before the soil has got very dry.

KEW HAND-LISTS: A. R., *Habana, Cuba*. *Hand-List of Trees and Shrubs grown in Arboretum (excluding Coniferae)*, 2nd ed., 1902, 1s. 3d., by foreign and colonial post 1s. 10d. Part II. (1st ed.), *Gamopetalæ to Monocotyledons*, 1896, by post 1s. 2½d. *Hand-List of Conifers*, 2nd ed., 1903, by post 4½d. *List of Ferns and Fern Allies*, 1895, 6d., by post 7½d. *Herbaceous Plants*, 2nd ed., 1902, by foreign and colonial post 2s. 6½d., or with cloth boards 3s. 3½d. *List of Tender Monocotyledons*, 1897, 9d., by post 1½d. *List of Tender Dicotyledons*, 1899, by foreign and colonial post, 2s. 1½d., or with cloth boards, 3s. 5d. In addition, *The Hand-List of Trees and Shrubs* (2nd ed.) and *Hand-List of Coniferae* (2nd ed.), may be had in one volume with cloth boards, by foreign and colonial post, 2s. 7½d. Also the *Hand-List of Orchids* and *Hand-List of Tender Monocotyledons* may be had in one volume with cloth boards, by post 2s. 4½d. These are most carefully drawn up and are very useful to gardeners. The *Index Kewensis* is of special use to botanists; it was published by The Clarendon Press, Oxford (agent for London, Mr. Frowde, Amen Corner, E.C.). There are four volumes, and three supplemental parts have been issued in Belgium. Write to Mr. Frowde. Such details encroach considerably upon our space, but we are anxious to assist one so far removed from the source of information.

MEALY BUG IN VINERY: Correspondent. The remedy that you send us is as good as most, but a single application would not be of much use, but the remedies must be followed up from time to time during the warm weather, and constant watchfulness exercised, touching solitary specimens of the insect with a camel's-hair pencil dipped in methylated spirits. There must likewise be a cleansing of the Vines in the month of December or January, the rougher portions of the bark being rubbed off and all canopies scraped clean, following this work with a dressing of Gishurst Compound Soap, at the strength of 3 oz. to one gallon of water. The adventitious roots should be cut off and no

stove plants grown in the house during the forcing period, if the vinery can be thrown open during the winter, emptying the hot-water pipes to prevent the water from freezing or failing that making the water lukewarm. See present issue of *Gardeners' Chronicle*, p. 366.

MOSS ON A LAWN: T. E. F. If the land is wet it may need draining, if that is its normal condition, otherwise wood-ashes and loam finely sifted, one of the first to eight or ten of the second, sprinkled on the surface till but little of the herbage is visible will destroy the growth of moss and cause a more abundant growth of the grasses. If very little grass is found on the lawn, it will be advisable to dig it up after affording manure, and re-sow. If it be merely top-dressed, as much moss as possible should first be removed with an iron rake.

NAMES OF FRUIT: J. H. Walker. Blenheim Orange Pippin.—*Constant Reader*. 1, Withington Fillbasket; 2, Striped Beefing; 3, Herefordshire Beefing.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—C. T. & Co. *Artemisia Dracunculus*.—A. R. P. 1, Send in flower; 2, *Ruellia Portellæ*; 3, *Asclepias curassavica*; 4, *Lasiandra macrantha*.—A. H., *St. Clere*. *Peperomia Saundersi* and *Asparagus decumbens*.—T. Bletchingley. *Begonia fuchsoides*, or one of the garden forms near it.—E. A. T. *Oncidium prætextum*.—V. A. *Oncidium ornithorhynchum*; 2, *O. excavatum*; 3, *Epidendrum osmanthum*, also called sometimes in gardens *E. Godseffianum* and *E. Capartianum*; 4, *Maxillaria punctata*.—J. B. 1, *Panax Victoræ*; 2, *Anthericum lineare variegatum*; 3, *Saxifraga trifurcata*; 4, *Festuca ovina glauca*.—W. M., *Melrose*. *Epidendrum cochleatum*.—J. W. The arborescent form of *Hedera Helix aurea*.—W. S. C. T. *Fatsia japonica*; the others next week.

QUALIFICATIONS OF COUNTY COUNCIL LECTURER ON HORTICULTURE: Hortor. It is essential to possess a wide practical and theoretical knowledge of gardening, and the power of exposition in simple language, and of talking for an hour or longer at a time. Photographs or coloured diagrams of a variety of gardening operations, of a simple nature, are of great usefulness to men and boys who have to begin at the very beginning, having scarcely any knowledge of gardening, excepting of the most elementary kind. Such students can more easily comprehend that which appeals to them through the eye. As regards such a post as that which you desire, you should advertise in some county journals or watch the advertisement columns of such, or get into communication with some influential councillor or parks committee-man.

PHOTOGRAPH OF AUTUMN FOLIAGE AND BERRIES IN THE SHAPE OF A MAN'S FACE: F. B. We do not think that it would be suitable for our pages.

ROSES: H. P. To give you the list you require would occupy too much of our not too abundant space. Secure a catalogue from some nurseryman.

ROTHAMSTED BULLETINS: R. B. We advise you to apply to the Laboratory, Rothamsted, Harpenden.

STERILISING SOIL: J. D. In a book entitled *The American Carnation*, reviewed in these columns, p. 16, June 11, of the present year, the methods pursued in American nurseries is fully explained.

VIOLETS: R. W. R. No trace of fungus disease on either set of leaves. Cause of the discoloration uncertain; evidence of thrips on some leaves. All seem to have a healthy appearance except the spotting.

COMMUNICATIONS RECEIVED.—F. C. H. (your suggestion will be considered)—H. B.—G. W.—D. R. W.—W. G. S. J. G.—J. D.—Dr. Kriazin, Berlin—Culea—J. C.—G. B. D.—J. B. C. The report was received by us earlier from another correspondent—F. M. Good—*Urbs intacta*, the sport is pretty; take cuttings—T. Humphreys (next week)—C. F. C. (very poor specimens; we will see what can be done)—N. S. C. P.—W. B. H.—A. S.—R. H. D. P.—*Constant Reader*—J. L.—A. J. S.—Miss Gallon—E. H. C.—H. P.—E. L.—J. C.—H. Neal—C. H. W.—H. H.—E. J.—E. M.—A. F. D.—H. W.—T. A.—R. E.—F. J.—G. W.—E. W.—P.—C. F. T.—W. A. C.—J. O'B.—A. D.—W. E. L.—O. B.—W. D. E.—Nettleton—S. A.—F. A.—J. B. C.—F. J.—S. P.



KILLERTON, DEVONSHIRE: SOUTH-WEST VIEW OF HOUSE, SHOWING FLOWER GARDEN, HERBACEOUS PLANT BORDER, AND ONE OF THE VASES. THE LARGE TREE IS THE TULIP TREE, LIRIODENDRON TULIPIFERA.

W. Barrett, Photographer.



THE

Gardeners' Chronicle

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ABINGTON.

SITUATED as it is within a short distance of the lead-mining district of Wanlockhead, in Lanarkshire, the great altitude prevents vegetation in the shape of trees attaining those stately dimensions usually associated with a landed gentleman's place; yet there are few places that can compare with Abington in the peculiar beauty and charm of the whole district.

On alighting at Abington station, which is on the Caledonian main line, the visitor is at once struck with the general air of neatness and order that prevails on every hand, evidence at once of taste and expenditure on the part of the proprietor. The river Clyde flows close beside the railway here, and is spanned by a handsome bridge, from which a fine view is obtained.

Proceeding a few yards further on, we reach the gardener's house, and one of the various entrances to that portion of the estate with which we are more directly interested—that is, the gardens and pleasure grounds. The glasshouses are just about a stone's-throw from the gardener's habitation,

and are surrounded by a section of the garden ground devoted equally to flowers and vegetables. The main vegetable garden is entirely isolated.

Passing on, we reach the site of the former mansion, which was a noble pile of red freestone in the castellated style of architecture, but was unfortunately destroyed by fire some years ago. Starting here, a new avenue about a mile in length leads us, after crossing the public road and Gouar Water, to Glen Gouar House, which is finely situated in the beautiful and romantic Glen of Gouar. The laying-out of the surroundings is not yet completed, as the operations are mostly carried on during Sir Edward Colebrooke's absence; but when all the projected ideas have been finished there will be few more charming residences in Scotland.

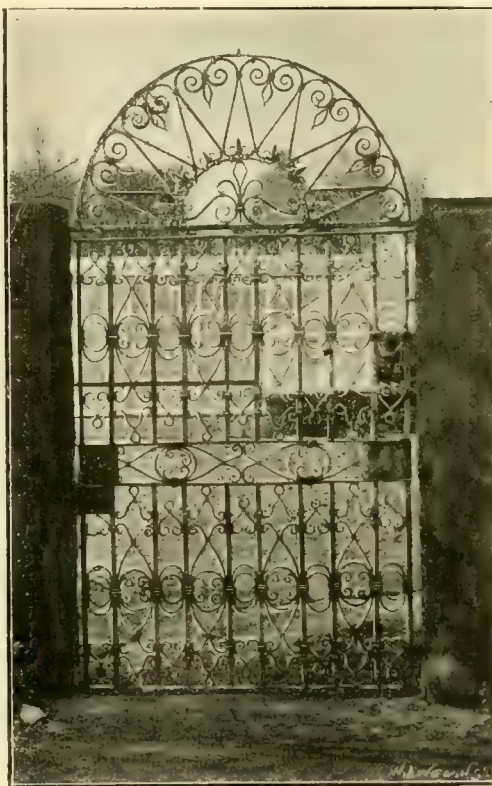


FIG. 153.—THE "ATHENIAN" GATE AT ABINGTON.

In a sheltered nook of the flower-garden there is a weather-house of large dimensions, which is known as Lady Colebrooke's workshop. The interior must be seen to be appreciated, for it is a perfect exhibition. Her ladyship is an expert carver in wood, and has a good collection of tools and electrically-driven machinery for the practice of her hobby. Nor is she selfish with her splendid gift, for while in residence at Abington she holds classes regularly, which are well attended, and each year in August the result of her teaching is seen in her pupils' work, which is exhibited in competition at the local flower-show, the prizes being presented by her ladyship.

Returning to the gardens, the previously referred to bridge across the public road is passed. I had, however, the pleasure of photographing a very interesting garden-gate brought from Athens by Sir Edward (fig. 153). An inspection of this will prove that the art of working in iron is as old as the hills, and also how great must have been

the labour to work out all those intricacies in cold iron. The gate is in an excellent state of preservation.

The difficulties attendant on high-class out-door gardening at this height of 1,280 feet above the sea-level are great, so that the excellent stuff, both in flowers and vegetables, which is annually produced reflects great credit on the gardener, Mr. McMurtrie. Too much space would be taken up in enumerating everything in detail. I will therefore confine my remarks to a few things specially worthy of note. Malmaison Carnations are so well grown that anyone who has hitherto been unsuccessful with this troublesome class of plants would find both pleasure and profit in a visit to Abington gardens. It is not possible to see better flowers anywhere, and the health of the plants is all that could be desired. Carnation-growers will appreciate the significance of this desirable combination, as it is the exception rather than the rule to find delightful flowers on rudely healthy plants. On another occasion I may go into the details of the cultural method practised by Mr. McMurtrie.

The zonal Pelargonium here receives the attention it deserves, having long been a favourite at Abington, and its cultivation has been brought to a high state of perfection. The collection embraces all the notable examples of recent introduction, and may be seen at its best during the month of August, when a magnificent display is made.

Violas or tufted Pansies are another feature, and are so numerously cultivated that these gardens might be aptly termed the home for Violas. Mr. McMurtrie was at one time a strong exhibitor, clearing the boards at Edinburgh and other shows for years in succession.

In the Black Hamburg vinery at the time of my visit there was as fine a crop of Grapes as it has been my lot to see. The other vineries contained young Vines just beginning to bear.

My notes must, however, on this occasion draw to a close, although much more might be written without exhausting the objects of interest in and around Abington, whose inhabitants hail with delight the yearly advent of Sir Edward Arthur and Lady Colebrooke. With scarcely less delight, I am certain, must Sir Edward and his consort anticipate their annual visit to their charming Scottish home. *Ardrnahu.*

NEW OR NOTEWORTHY PLANTS.

SCHOMBURGKIA CAMPECHEANA.*

THREE flowers of a spike of this plant were obtained by Mr. Diercks, captain of a Bremen vessel bound for Laguna de Terminos, the most

* *Schomburgkia campecheana*, Kränzlén, n. sp.—Sepalo dorsali petalisque linearibus apice paulum dilatatis, sepalis lateralibus toto ambitu oblongo-lanceolatis omnibus obtusis margine quam maxime undulatis, sepalis lateralibus apice paulum deflexis; labelli lobis lateralibus latissimis triangulis apice rotundatis, lobo intermedio obcordato antice profunde bilobo margine labelli vix v. non undulato, disco lineis paulum proliantibus 5 apicem versus evanidis instructo; gyno-stemio apicem versus dilatato, filamento satis longo, anthera oblonga manifeste bicornuta. Flores purpurei (?) labelium certe pallidius, 6–7 cm. (2½ poll.) diam., labelium 2½ cm. (1 poll.) longum et latum. Est species affinis simul Schomburgkia undulata, Lindl., et Sch. Thomsoniana, Rehb. f.

America centr. Laguna de Terminos, ubi invenit T. Diercks, navarchus Bremensis.

southern inlet of the Gulf of Campeche. The flowers combine the characters of the old *Schomburgkia undulata*, Lindley, and those of *S. Thomsoniana*, Rehb. f., a species of more recent introduction; but they differ from both in the lateral sepals being broader than the very narrow petals, and by the odd sepal. All these five segments of the flower have the margin waved as in *S. undulata*. The lip is exactly the same as in *S. Thomsoniana*, Rehb. f.; the margin is perhaps not so much waved, but the difference, if there is any, is a very slight one; the column is rather slender for a *Schomburgkia*. The anther has two very prominent divergent horns, the eight pollinia are quite like those of other plants of the genera. We imagine the colours of the flowers to be a perfect combination of those of the two species mentioned before, so that perhaps we have to deal with a natural hybrid. *S. undulata*, Lindl., is a native of Central America; *S. Thomsoniana* has been for the first time found in the Cayman Islands, and will probably be found afterwards on the continent of Central America as the plants of the swampy shores of the Gulf of Campeche become better known by us than now. I do not wish to avoid the difficulties offered by varying species by declaring them to be hybrids between two or more supposed species, but in this case we have the true and scarcely varied characters of two distinct species combined in one plant, therefore we may acknowledge it to be a natural hybrid. *F. Kränzlin, Berlin.*

THE ROSARY.

ZÉPHYRINE DROUHIN.

M. OTTO BALLIF contributes to the *Journal des Roses* for October some interesting notes about the Rose Zéphyrine Drouhin, his remarks being called forth by the recent correspondence in the *Gardeners' Chronicle* with regard to this variety. M. Ballif describes the Rose as being remarkably hardy, being cultivated at high elevations among the Alps and Jura mountains; and he also notes that it is a thornless variety. The foliage is sub-persistent, and the variety strong-growing, floriferous, and an excellent climber. Its pretty and scented blossoms are semi-double, of a tender rose colour, and open in succession from May to late autumn. This Rose does well as a bush, or as a climber on trellises and walls. It is easily grown from cuttings of the ripened wood.

The variety is known by many different names in different localities; but its only and true name is Zéphyrine Drouhin. It was raised and sent out in 1873 by M. Bizot, of Dijon, who dedicated it to Madame Zéphyrine Drouhin, wife of a horticulturist of Semur, in the Côte d'Or. A sport of the variety bearing white blooms has been observed, but unfortunately no steps were taken to propagate this form.

SEASONABLE NOTES.

During favourable weather all arrears in planting Briar stocks should be attended to, a mulch of half-spent manure being spread over the ground. Ground that has been trenched and manured earlier in the season will now be in good condition for planting all kinds of Rose trees. For the China and Tea-scented class, if the soil is adhesive, afford charred garden refuse, leaf-mould, and sharp sand, which will improve its texture. Standard Roses should be securely staked as soon as planted, for if blown about injury is done to the roots, and a check is inflicted on growth. If through stress of work seedling Briars and Manetti stocks for budding next season cannot be planted now, the work may be delayed without serious ill effects, but, weather permitting, they are the better for being got in before February is out. Established Roses in pots may now be pruned and placed in cold frames, taking

off the upper crust of soil down to the roots, and replacing it with good turfy loam, mixed with some $\frac{1}{2}$ -inch bones, making this quite firm. The drainage should also have attention. At the turn of the year these will be ready for gentle forcing if placed in a well-lighted glasshouse. It is not too late to pot up a second batch in 6-inch pots for succession, using the same kind of compost as for the established plants, with the addition of a small quantity of decayed manure, and potting firmly. Plunge the pots outside in coal-ashes or cocoanut-fibre refuse till March, when they can be pruned and placed in the cold frame; and as the earliest plants begin to grow, pass them on into gentle heat in a light house in a temperature of 55°. Cuttings of Manetti and Briar stocks may still be put in, using ripened wood only, which cut up into 9-inch lengths, severing them at a bottom joint, and taking out all the buds excepting about four at the top of the cutting. Well mulch the surface of the bed with cocoanut-fibre refuse. *J. D. G.*

KEW NOTES.

NEOBENTHAMIA GRACILIS, Rolfe — Although this charming Orchid has been in cultivation for nearly twenty years, it has not yet received the attention it deserves. *Neobenthamia* is a remarkably distinct genus, the Orchid most resembling it in general habit and growth being *Arundina bambusæfolia*, although the growth of *Arundina* is less flexible. *Neobenthamia gracilis* is a very free and vigorous grower, and may be easily propagated from the numerous secondary branches developed upon the main stem, each having aerial roots at the point of junction with the parent stem. The specimens now flowering in the warm Orchid-house at Kew are from 4 to 5 feet high, having a diameter of about 18 inches. The flowers are produced on dense terminal racemes, and as the first flowers fade the raceme elongates and develops fresh flowers for quite six weeks. The ovaries of the old flowers are much longer than those of the younger ones, which gives to the inflorescence a globose form. The individual flowers are about $\frac{3}{4}$ inch across, are white in colour, except that the lip has a yellow stripe down the centre, and is also marked with numerous violet spots. An average inflorescence carries about thirty flowers. Although not a gorgeous plant when in flower, yet its free-flowering habit and delicate beauty should make it a favourite, and when out of bloom this evergreen species is a presentable object, which some popular Orchids are not. The species was sent to Kew by Sir John Kirk from Zanzibar in 1884, and flowered for the first time in 1890. It was figured and described by Mr. Rolfe in the *Gardeners' Chronicle* for September 5, 1891, fig. 33, also in *Botanical Magazine*, t. 7221. It should be grown with the tropical Orchids, giving it a good light position, where the growths will ripen well, thus insuring a good show of flowers. Similar treatment to that afforded *Sobralias* will suit the plant admirably. *H. W.*

NURSERY NOTES.

CHRYSANTHEMUMS AT MESSRS. J. SERVICE AND SONS, DUMFRIES.

WITH a view to assist in the establishment of the Chrysanthemum show at Dumfries, under the auspices of the Dumfriesshire and Galloway Horticultural Society, of which Mr. R. Service is the Chairman of Directors, Messrs. Jas. Service & Sons have grown a number of Chrysanthemums for large blooms at their Corberry Hill Nursery, Maxwelltown, Dumfries. These are unusually well grown for a trade establishment in the provinces, and the large conservatory in which they are disposed has been visited by a

great number of admirers of Chrysanthemums. About 300 well-grown plants are displayed. The least successful are those of the Carnot family. One may remark upon the splendid blooms of Mrs. Lewis (not usually so good), Lady Esther Smith, Matthew Smith, Lily Mountford, Miss Elsie Fulton, W. R. Church (grand flowers from the third bud), Charles Davis (very fine), Vivian Morel (good generally in the district), Princess, Ethel Fitzroy, Millicent Richardson, Madame G. Henry, Mrs. R. Darby, Edwin Molyneux, Nellie Bean, and Mrs. J. J. Thorneycroft. J. R. Upton had been very good, but is now past. A number of other varieties are grown, but the above will give a good idea of those which have been the best in the district in a season of excessive rainfall and high winds, which last have been very injurious to Chrysanthemums. A number of others are grown for cut blooms for the florist trade of the firm, which is an extensive one. *A.*

ORCHID NOTES AND GLEANINGS.

CATTLEYA LODDIGESII.

A PHOTOGRAPH of a compact and finely-grown plant of this *Cattleya*, in a comparatively small pot, represents one of the most beautiful examples of it which we have seen, and is specially interesting as it is "grown in the old material—sphagnum and peat." The plant, which bears seventeen blooms, flowered in the garden of Mrs. E. Roy, Craigcolwan, Perth, who kindly sends the photograph. Very large quantities of this fine old species have been imported from Brazil during the last three years, and many of the plants have found their way into gardens in which a collection of Orchids is not attempted, but only a few worthy subjects grown with the rest of the stove plants. The market-growers also cultivate it largely for cut flowers. *O'B.*

CATTLEYA LABIATA.

We have just cut the last flowers of a fine lot of *Cattleya labiata*, the chief of which was a batch of fifty-five plants imported in April of last year. They have produced 193 blossoms this season, which, omitting a few that did not flower, gives an average of four to a plant. The largest number cut from one plant was ten, and several had as many as six and seven, all good flowers of large size. The strain is a fine one. *H. Dovey, Broom Hill, Spratton.*

WHITE CATTLEYAS AT SOMERGHEM.

The Marquis de Wavrin's collection of Orchids at Somerghem, near Ghent, is noted for the excellence of culture, and more particularly for the complete set of "albinos" it contains. The various white forms of *Cattleya Mossii* shown by him at the Temple Show were much admired, and more recently a fine set of albino large-flowered *Cattleyas* was included in a group shown at the last Ghent Quinquennial Exhibition.

At present there is a fine show of Orchids in his collection, the white forms of *Cattleya labiata* and some hybrids forming the chief attraction, there being thirty-four flowers on the various white forms of that species, some of the least known of these being worth recording. These are *C. labiata* Kate Brazier, with snow-white sepals and petals, and with a rich purple-crimson blotch on the broad, white-margined lip. Four flowers on one spike.

C. I. Mme. de Hemptinne, a grand flower, with a deep yellow throat and some rose colour on the lip. There are fourteen flowers of this fine variety expanded.

Princess Clementine, deep golden yellow in the throat, the colour expanding far into the front lobe of the lip.

Princess of Wales, a beautiful flower, with pale lilac lip, very broad and finely fringed.

Mlle. Marie de Wavrin, white with a pale rose lip, which is beautifully frilled and fringed.

Of others finely in flower were the best pure white *Lælia Perrini alba*; the handsome white *C. x Hardyana albens*, shown lately by M. A. A. Peeters at the Royal Horticultural Society, when it secured a First-class Certificate; *Lælia pumila* Queen Alexandra, pure white, and with segments nearly 2 inches wide.

The Orchid-house in which the coloured forms of *Cattleya labiata* are arranged is very showy, most of the plants being selected for the rich colouring of the flowers. *Visitor*.

DENDROBIUM FALCONERI.

This pretty Orchid is not so much grown as its beauty would seem to merit, for it is really one of the prettiest of the genus. I noticed some time ago well-flowered plants in the collection of Sir F. Wigan, Bart., at East Sheen. It is usually very small and weakly till the flowers appear; then one really is surprised at the size and beauty of the latter. The plant requires a warm house, and succeeds when fixed to a raft, or placed in a wooden basket. I observed a good batch at Mr. Tracey's nursery at Twickenham; but these plants were not so well flowered as those at Clare Lawn, on one of which I counted about a hundred flowers. *W. A. Cook*.

RETIREMENT OF MR. JAMES SMITH

MANY who are acquainted with Mr. James Smith, the head gardener to the Marquis of Linlithgow at Hopetoun House, will regret to hear that he has been compelled to resign his appointment on account of ill-health, his resignation taking effect on November 28.

A few notes on his professional career may be of interest to those who know something of him. A native of Ayrshire, Mr. Smith soon showed himself possessed of the qualities which make for success in gardening. After filling minor positions, he received an appointment as foreman at Brechin Castle, leaving there to occupy a similar position at Oxenford Castle; and subsequently he became head gardener on a Perthshire property, followed by a similar appointment at Angleston House, Ratho. Thence he went to the more important position of head gardener at Moredun House, near Edinburgh, which was followed by his obtaining the position of head gardener at Hopetoun House, the seat of the Earl of Hopetoun, a title now merged in that of Marquis of Linlithgow.

This was sixteen years ago, and since that time Mr. Smith has enjoyed the unlimited confidence of his employer and the esteem of the many friends he has made in his successful horticultural career. It is impossible to tell in a few words of his work as a gardener or of the skill which found full scope in the important charge at Hopetoun House. No department was neglected, and it is difficult to single out any without appearing to depreciate others equally well done. Yet possibly Mr. Smith himself will admit that hardy fruits were among the subjects in which he most delighted. Apples in particular engaged his notice, but I am not prepared to say whether the one which bears his name was raised by him or not.

As befitted his position in Scottish gardening, Mr. Smith took an active interest in the horticultural societies of the capital, and was an active and valued member of the Council of the Royal Caledonian Horticultural Society. His services were also in frequent requisition as a judge at the leading shows.

For some time Mr. Smith has been a great sufferer from a sciatic complaint, and has therefore been compelled to face the question of his

retirement. When this was felt to be necessary, it is almost needless to say that the generosity of his employer was a pleasant evidence of the esteem in which he held a faithful employee. It is to be hoped that Mr. Smith's retirement to the pleasant village of Bonnyrigg, near Lasswade, will not only prolong his days, but will help to restore his health. He is succeeded by Mr. T. Hay, who has been foreman at Hopetoun House for some time.

CYPRIPEDIUM IN GLASS POT.

THE accompanying interesting illustration is taken from a photograph kindly sent by Captain G. W. Law-Schofield, New-Hall-Hey, Rawtenstall, Manchester. The illustration tells its own tale,



FIG. 151.—CYPRIPEDIUM ROOTS IN A GLASS POT.

but may, however, be supplemented by Captain Schofield's own remarks.

"I enclose a photograph which I have just taken of the roots made by a *Cypripedium* potted in a glass pot. After hearing that Mr. De B. Crawshaw had exhibited an *Odontoglossum* grown in a similar pot, I decided to see what *Cattleyas*, *Cypripediums*, and *Odontoglossums* would do in glass. The *Cypripedium*, which has been in the pot about six months, has made good leaves, but has not flowered since potting. One *Odontoglossum* has grown an exceptionally fine bulb with very long leaves, which grow erect and very stiff and strong. We have quite given up tree-leaves for *Cypripediums*, as we found that the flowers were so much inferior when leaves were used to those potted in the old way. The material in the glass pot is composed of peat, sphagnum-moss, and fibrous loam. We flowered two plants of *Cypripedium nitens*, Ball's variety, one potted in leaves and the other in loam, &c., and found that the flowers of the one in the latter were altogether superior to those of that in leaves. We seldom find any root action in the plants we get from the Continent potted in leaf-mould, so for the *Cypripediums* we have used the old material for a year back, and with very great advantage."

MARKET GARDENING NOTES.

GRAPE CLEANSING.

THIS, the market gardener's term for the cutting out of all shanked and spoiled berries, is an operation very imperfectly carried out in some places. With respect to Muscat Grape cleansing is generally performed when the crop is cut for market, which is bad practice; nothing adds more to the expedition with which cutting and packing for market can be performed than to have every bunch ready for placing in the baskets.

Gros Colmar, in so far as regards the latest crops, are late indeed. This, of course, is due to the season, and points to the desirability of starting the Vines earlier. If there are very small faulty bunches on the Vines these should be sold first, if at all fit for sale, for it is better to sell them for a small price now than to keep them. Gros Colmar Grapes which have to hang only till Christmas suffer much from the lack of cleansing, the market grower thinking he can carry it out as he continues to cut the bunches, but it is not a desirable practice. *Stephen Castle*.

COVENT GARDEN.

Nov. 21.—I find most growers report a slight improvement in trade; during the past week there has been more demand for cut bloom, especially that of better quality, and now that the outside supply is over, there will not be a glut of any kind of flowers. Still, there is an abundant supply of almost all that is wanted. It begins to look more like winter trade now that plants of *Euphorbia* (*Poinsettia*) *pulcherrima* are already on sale, certainly not of the highest quality, but fairly good, both in pots and as cut heads. I learned that during the past week one grower had supplied eighty dozen (cut) to one firm for the decorations in connection with the recent Royal festivities. Other growers also report good orders. Of course, this kind of florists' work only affects a certain number of growers, yet in one way and another it makes trade in general a little brisker. The cold weather of the past few days has caused market growers to send in lesser quantity, but there was a decidedly greater tendency to clear out. It would not be safe to give any definite prices, for while much may go out at fairly remunerative prices, the surplus has to be cleared out at what it will make.

I am aware that there are many country growers who send their goods to be sold on commission, and in many instances it is when the supply much exceeds the demand that these extra consignments reach the commission men, and when returns are made the senders are surprised at their smallness; but, as one of the large commission men explained to me the other morning, they are obliged to look after those who send every day through the year first, and though consignments from casual senders may be good, they of necessity get left over until all the best trade is supplied. The commission-man's position is not altogether a pleasant one, for though he may conduct his business on the strictest and most careful lines, he finds it impossible to satisfy all concerned. Yet I am sure that the grumblers would not do better if they acted as their own salesmen. *A. H.*

FERNS.

Nephrolepis Westoni.—This is a very pretty crested variety of *N. ensifolia*. The type is remarkable for the thick, leathery substance of its fronds; the variety partakes of this quality, and should make a useful market Fern. At first sight it somewhat resembles *N. davallioides furcans*, but the branching crests from each pinnule are shorter, and all the fronds on the plants shown were fertile, while in *N. d. furcans* it is rarely that fertile fronds are produced. The symmetrical habit and good substance of the fronds should

ensure its becoming a useful market Fern, and the Award of Merit was well deserved.

Nephrolepis Hestoni.—This is a distinct variety from the same batch of seedlings; it is intermediate between *N. ensifolia* and *N. rufescens* (or *Zollingeriana*); it has the brown, woolly rachis, but the pinnules are narrower, deeply lobed and rather long. It is erect in growth, and the fronds about 2 feet in length. This also produces spores freely, and the sporelings that have been raised have come true to character. In each of the above the original plants and a seedling plant from each were shown at a recent meeting of the Royal Horticultural Society by Messrs. Craig, Harrison & Craig.

ERICA GRACILIS NIVALIS.

This is a decided improvement on *E. gracilis alba*, whose flowers are apt to have a shading of pink on them, which is quite absent in those of *E. g. nivalis*. The value of *E. gracilis* is well-known, and this new white variety should prove a great acquisition. Before seeing it at the Drill Hall, I had an opportunity of comparing it with a plant of *E. alba* in the market, and there is no doubt that it is a much better white Erica. It received an Award of Merit when shown on Thursday, October 27, by Messrs. Gregory & Evans, of Sidcup. A. H.

BOOK NOTICE.

FARMING. By W. M. Tod, M.A. J. M. Dent & Co., Bedford Street. (7s. 6d.)

This is one of the "Haddon Hall Series," and is written by a gentleman connected with the Agricultural Department of the University of Cambridge. A more fortunate combination could hardly be wished, for the author is not only a practical farmer, but he wields his pen with the grace and ease of a practised writer. He is overflowing with sympathy with his subject, knows it practically, is well versed in the science of agriculture, and is, as we have said, a pleasant writer. What wonder, then, that his book is a delightful one, which even those not specially interested in agriculture may read with interest and profit! For ourselves, we have read the book from beginning to end, and found it far more entertaining than any novel; but that may be a subjective phenomenon only!

The book treats of soils, manuring, crops of various kinds, live stock, horses, and cattle. It ends with a chapter discussing the weighty question, "Will it pay?" In this chapter the author shows that the successful farmers of the present day are those who have known how to adapt their practice to the great changes that have of late come over agriculture. The most successful farmer is he who is able to sell the most from his farm. Such farms, says the author, are invariably clean, well tilled, and in good condition, so that the fertility of the soil is maintained. "It costs the farmer very much more to keep his land clean than to manure it." "In my travels," says the author, "I have come across farmers who farm upon this system. They breed large numbers of horses, cattle, sheep, and pigs, buying calves at times; they grow a large variety of green crops, planned to come in at all times of the year; they always have something to sell, and, considering the numbers of stock turned out, their expenditure on foods is exceedingly small." Present-day farming must be freed from ancient customs and restrictions suitable for conditions that have completely changed.

For Potatoes the author says the land should be thoroughly and deeply cultivated, and then thrown into ridges or drills with the double-breasted plough, the manure being placed in the furrows so formed. The most economical dressing

is a mixture of farmyard manure and artificials. About 12 loads of dung per acre should be spread in the furrows, and a mixture of 3 cwt. of superphosphate, 2 cwt. of kainite, and 1 of sulphate of ammonia, should then be distributed broadcast over the whole. Spraying with Bordeaux-mixture in July is productive of great benefit. Not only does it largely prevent disease, but it also prolongs the life of the tops; and as the tops have to manufacture the starch for the tubers, the longer these tops are green and active the larger will be the crop.

We need only add that the book has some pretty illustrations, is well printed, and has an index.

A NATIONAL POTATO SOCIETY.

WHEN it is stated, as a few days since was the case, that Potato-culture has in this country declined to the extent of 10,000 acres, it is but natural that some sense of alarm as to the future of our home Potato supply should be created. In the returns furnished as to agricultural crops it is not probable that the areas of Potatoes found in gardens and allotments—certainly in the bulk a very great area—are included. But whilst these small breadths hardly send their produce into the market, yet the greater their produce the less is the demand made upon the market stocks. When, as this year, we find that of breadths planted, almost universally growth on one-half was so poor that the resultant crop of tubers is hardly one-third of a normal crop; and when, still further, it is found that disease has affected the reduced produce materially, it is evident that our ordinary or home-grown Potato crop is a very limited one, and when it is added that the breadths of agriculturally grown Potatoes have been reduced to the extent of no less than 10,000 acres it is no matter for surprise if some feeling of alarm be created as to the future of the Potato as a crop and as an important article of food. It is further surmised that, arising out of the comparatively poor crop of this year, the area planted next year may be still farther lessened. Should that be so, then are we indeed in presence of a possible danger and calamity. This may seem to partake of pessimism, but we have had of late, in spite of the great efforts put forth by raisers, a good deal in relation to our Potato supply to arouse feelings of anxiety. Certainly if there be one product more than another which enters into our daily diet that we should produce here in ample abundance, it is the Potato. What better reasons can be found than these considerations furnish for the promotion of a national society devoted absolutely to the improvement and culture of the Potato as an element of food and of commerce? It was recently urged in these pages that, if such a society were formed, it should have in it no trade aims or interests. With that desire I cordially agree. Still further, I feel assured that the promoters of the proposed society have no such aims. Their objects evidently are to promote the culture and improvement of the Potato as a food-product, apart from all mere trading or pecuniary interests [which may be left to take care of themselves].

There seem to be so many ways in which aid to Potato-culture can be given. Even now there is much associated with it that is faulty and needs amendment. Much may be done to help arouse interest in wider and better culture by exhibitions. Even more can be done through the aid of trials conducted with impartiality and judgment in diverse parts of the kingdom, especially of new or little-known varieties, and particularly in relation to methods of culture, of storing seed-tubers in winter, in times of planting, in general treatment, and not least in the application of disease remedies so far as may be practicable. At p. 357,

a first-class grower, Mr. B. Ashton, details some of the results of his present year's trials of many varieties, but the report is incomplete and has less value than it would have had his trial been repeated in several other parts of the kingdom and in diverse soils.

His results, in relation to certain new varieties differ materially from those obtained elsewhere—one more proof, if proof were needed, that single trials of Potatoes are not reliable tests for the whole kingdom. Another writer on the next page is permitted to laud a seedling variety to the skies. Lucky man! Lucky Potato! But there are some readers who have been long familiar with these praises where garden products are concerned. Were this wonder tested at various stations in the kingdom simultaneously, a true notion of its merits would be obtained. That is a result for the proposed Potato Society to secure. A. D.

CHRYSANTHEMUM 'MRS. J. DUNN.'

THE new Japanese Chrysanthemum illustrated in fig. 155, p. 385, is one of the best novelties of the present season. It is pure white, and in the disposition of the florets and general build of the flower is somewhat similar to *F. S. Vallis*. The flower is of large size, and very full. The variety will be distributed by Mr. H. J. Jones, Ryecliff Nurseries, Hither Green, Lewisham, and will add yet another to the number of first-class Chrysanthemums distributed from these nurseries.

THE LOSS OF VIGOUR IN PLANTS THROUGH PROPAGATION BY CUTTINGS.

As a propagator of plants I have paid much attention to the question raised by your correspondent on p. 217. I think there is little doubt that some species of plants do deteriorate with age. I will take Carnations as the first example. While many varieties will retain their vigour for an almost indefinite time, others only last for a comparatively short period. The yellow varieties appear to me to lose some of their vitality sooner than any others. I remember when first handling *Pride of Penshurst* that I propagated several thousands, and they all made bushy, healthy plants—in fact, I never knew any variety of Carnation do better; yet the following season I could not succeed so well, and year by year the stock got worse, until I had to give it up altogether; but before doing so I obtained a stock from another grower. I had a similar experience with *Andalusia*, a winter-flowering Carnation, a great favourite twenty years ago, which is hardly ever seen now. Some other varieties have also dropped out of cultivation, but there is none better to take their places. My experience was gained in establishments where plants were grown for sale, and it may be that owing to the strongest and best plants always being sold, and cuttings and layers from weak plants were made use of, the stock deteriorated more quickly than it otherwise would have done.

I will now take *Begonia Gloire de Lorraine*, which has always proved abortive; in fact, it rarely produces female flowers; and this variety, instead of deteriorating, appears to gain in strength from year to year. There seems little doubt that all plants which fail to mature seeds may be propagated from cuttings and a healthy stock kept up for a much longer period than can be done with such plants as seed freely; and yet it is possible to grow many of the seed-bearing plants for an indefinite period without ill effects being apparent. I have often referred to the necessity of propagating from strong, healthy stock and I have noticed that with some species



FIG. 155.—NEW JAPANESE CHRYSANTHEMUM "MRS. J. DUNN:" PURE WHITE.

(SEE P. 384.)

a long time is required to make good plants from weak cuttings, and in some instances it is impossible to do so. Take *Erica hyemalis*, a species which must have been in cultivation for at least half a century; it has always been raised from cuttings, and as grown at the present time it is more robust than it was twenty-five years ago; and the same may be said of other *Ericas*. I will refer to one other subject, viz., *Asparagus plumosus*. I have found that all seedlings will grow vigorously if potted on as they require it, and otherwise treated liberally; but grown in poor soil and after being divided several times the growth gradually becomes weaker, till at last the variety "nanus" is evolved. It is much the same with *Aralia Veitchi* and *A. gracillima*, which are usually cultivated in light peaty soil; but potted in rich loam and afforded good treatment they grow quite out of character. It is not difficult to get these into the vigorous growth, but it takes some time ere the plants get back to the thin graceful habit.

There is one more point I may refer to, viz., the propagation of plants which produce terminal inflorescences, such as *Euphorbia pulcherrima* (*Poinsettia*), the plants raised from early cuttings of which grow at the least 3 feet in height before they come into flower; but the tops may be taken off and rooted, and if treated properly large heads of bracts may be obtained on stems not more than 9 inches or a foot high. There are other plants which may be treated similarly, but it would not be safe to trust to these late propagated plants for the next season's stock. There is much more in the choice of stock plants and in the selection of suitable cuttings than is generally supposed. *A. Hemsley.*

KILLERTON.

(Concluded from p. 258.)

THOUGH at the time of my visit I was much too late for bulbs or other spring flowers, I was told that the whole of these slopes were thickly planted with *Narcissi* and other bulbous plants, and the natural growth of *Primroses* formed a veritable floral carpet. Amongst other plants that do well and flower freely in this and other parts of the grounds are *Romneya Coulteri*, *Griselinia littoralis*, and *Carpenteria californica*. About halfway up this green slope, upon which so many interesting shrubs and trees are planted, was a beautifully level turfed walk, from which not only the plants themselves can be seen to great perfection, but glorious views of the far distant country. But before leaving this spot I may mention that Mr. Coutts, who has had charge of the gardens for the last two years, drew my attention to a plant of *Arundinaria Simoni*, which had been planted within the period mentioned, and which at the time of my visit was bearing quantities of apparently ripe seeds. The plants in the clump at Killerton, as well as the seeds, were similar in appearance to those which have already been described in the *Gardeners' Chronicle* by Mr. Burbidge and others. Another fact to which Mr. Coutts referred was that in the Deodar-glen at Killerton, which runs east and west, the Deodars planted on the side facing south grow luxuriantly, while those on the opposite side always die out after attaining some size.

The time at my disposal at Killerton was not sufficient for noting all that was to be seen, nor is the space at my command sufficient for describing all that I did see. The work that Mr. Coutts and his staff have effected in the course of the two years he has been there, is an indication that the big

work he has in hand in the construction of a rock-garden and various other improvements and additions will make Killerton even more attractive in the future than it now is.

With regard to the rock garden (see *Supplément*, taken from a photograph by W. Barrett, Exeter), it may be said that the site selected offers facilities for a very successful result, being part of an old quarry. Much of the material is at hand, and being on the side of a hill of some considerable height a fine effect will be produced when the plants are established. A small beginning, however, has only yet been made, but among the plants already in position we noted the following:—*Calceolaria mexicana*, *Rhododendron kantschaticum*, the pretty little *Gaultheria antipoda* (usually referred to as a greenhouse plant, but placed out-of-doors here), *Leptospermum barbatum*, and others. A view of the rockery, taken from about half-way up and looking down upon the quaint tea-house, and giving some distant views on the right and left, is shown. In that part of the grounds contiguous to the rockery is the Fern-dell, which is being considerably improved by careful planting, and by the introduction of quantities of *Cyclamen* and *Anemone appennina* amongst the Ferns. It is crossed by a rustic wooden bridge, and is a charmingly secluded spot.

But I must conclude these notes with a reference to the names only of some of the most conspicuous plants passed somewhat hurriedly in making my way back to the railway station on the conclusion of an interesting and pleasant visit, made the more pleasant by the courtesy of Sir Thomas Acland and the attention of Mr. Coutts, who, it may be said, is an old Kew man. The plants referred to are *Leucothoe axillaris*, *Lupinus arboreus*, *Convolvulus Cneorum*, *Fitzroya patagonica*, 30 to 40 feet high; *Cryptomeria elegans*, 35 to 40 feet; *Abies Menziesii*, about 50 feet; *Araucaria Cunninghamii*, about 50 feet; *Cupressus Lawsoniana*, *Thuja gigantea*, a remarkably fine plant of *Colletia horrida*, covered with its beautiful white flowers; also a noble group of Cork-Oaks; besides the fine trees of *Lucombe Oak*, which have been so recently the subject of some discussion in the *Gardeners' Chronicle*.

In the kitchen garden it may be as well to say that Apples, Pears, Peaches, Nectarines, Apricots, and Figs are all grown in quantity out-of-doors, and do well in ordinary seasons. The evil effects of the present bad summer have, however, been felt here, as in other places.

Killerton is a climatological station, from which a monthly report is furnished by Mr. Coutts to the Royal Meteorological Society. *John R. Jackson.*

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Tuberose.—When in flower these are very useful for making bouquets, and their delicious perfume pervades a whole house, even if there be but a few plants. I prefer the Pearl and American varieties, though the African bulbs, which arrive in September, are the first to flower. With the three kinds of bulbs it is possible to have them more or less in flower nearly the whole year. The bulbs may either be potted singly in 4-inch pots and potted-on afterwards, or three may be put

in a 6-inch pot, using a light, rich soil and potting firmly; place a little sand under each bulb, and rub off with a label all side-growths, as they rob the central spike if allowed to grow unchecked. Plunge the pots in a slight bottom-heat in a temperature of 60°, affording no water until growth has commenced. To ensure a succession it is necessary to pot up a batch of bulbs every few weeks.

Solomon's Seal (*Polygonatum multiflorum*).—This is a useful plant when forced into flower early. Select the stoutest rhizomes obtainable, and place three or four in a 5½-inch pot, and treat them similarly to tuberose. The smaller pieces may be planted in rich soil out-of-doors, and after a couple of years they will be in a condition for forcing.

Spiræas.—*S. astilboides floribunda* is decidedly the best for culture in pots, and assuming that the clumps were potted in October, as was suggested, a few of these may be introduced to a temperature of 60°, and afforded gentle bottom-heat. Cover the crowns with damp moss, and keep the soil fairly moist, increasing the amount of water afforded as growth advances. A new variety named *Lord Salisbury* is recommended for forcing, but I have not seen it in flower except late in the spring, when it makes a fine show.

Pot Roses.—Established plants that have made a year's growth or more in pots may be introduced into a temperature at night of 50°, advancing by day to 55° or 60°, according to the weather. If a house cannot be set apart for Roses, the plants may be put in an early Peach-house or vinery. Syringe them overhead lightly once or twice daily, and afford water sparingly to the roots until considerable growth has been made. Keep a sharp look-out for the rose maggot, which may be found in curled leaves or in the flower-bud. Aphis must be dislodged by fumigating with XL-All; and mildew is best got rid of by using Campbell's patent sulphur vaporiser, a safe and effectual cure for this disease, providing the instructions are carried out which are sent with each vaporiser. Pot up a stock of plants for forcing next year, and plunge them in long litter or coal-ashes in a sheltered corner out-of-doors. Many of the hybrid Teas are very suitable for early forcing.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

French Beans.—When French Beans are required regularly during the winter, sowings should be made at fortnightly intervals, these being made either in large 60's or in the pots in which the plants are to bear their pods. Sow six to eight Beans, and thin the plants to four in a pot in either case. If the latter method be adopted, crock the pots efficiently with big crocks, covering these with turfy bits of the compost, and on these place as much soil as will half fill the pot; press moderately firmly, and squeeze in the seeds an inch deep, and cover lightly, but do not press the soil. When sowing small pots use no crocks; fill the pots within an inch of the rim, press the soil, then sow the seeds, and fill the pot lightly, and make level. The soil should contain enough moisture as will induce the germination of the seed without the necessity of affording water previously. Place the pots in a brisk, moist heat, afford water after a few leaves have formed, or before, if it be really needed; syringe the leaves in the morning if the weather be bright. Apply tepid manure-water alternately with clear water to plants in bearing. Let the pods be gathered whilst still young and tender. Varieties for present sowing, although not the earliest croppers, are Canadian Wonder and Sutton's Magnum Bonum.

Digging and Trenching.—These operations should be undertaken whenever the soil is not too pasty, but not trenching in snow or earth deeply frozen. In frosty weather wheel manure or other materials on to the quarters, leaving it in heaps in readiness for future digging, or spreading it when the object is to keep the land from being frozen. A plan of the cropping for the ensuing year should be drawn up, manuring and digging accordingly. The Pea quarter should be trenched, and a liberal dressing of manure

afforded [nitrogenous manures are not needed. Ed.]; the Cauliflower and Cabbage quarters being heavily manured with decayed stable or farm-yard dung. There are certain crops which may merely need a dressing, large or small, of charred garden refuse, leaf mould and the like.

Hints on work in general.—When hard frosts prevail and the spade cannot be got into the ground, let spent hot-beds, Vegetable-Marrow ridges and refuse-heaps be turned and thrown together, sorting out such of the materials as are fit for use, and putting that which is undecayed by itself. Keep a smouldering fire going, on which place prunings, weeds, &c., the ashes being useful as dressings for all sorts of vegetables. Ground infested with wire-worm should be afforded a dressing of gas-lime spread evenly over the surface and left for two or three weeks before digging it in. Let no vegetables be gathered in a frozen state if it can be avoided. A store of vegetables should be placed in a shed to meet immediate requirements. Broccoli should be lifted when the heads are fit for use, and stored in cold frames, turf pits, or sheds. The crop of Carrots left in the ground should be preserved from harm by being covered with a 2-inch layer of half-decayed leaf-soil; and the land containing Asparagus roots which will be forced should be covered thickly with stable-litter. Where the dressing of the Asparagus-beds with rotten dung has not yet been carried out no time should now be lost in getting this done when the weather is dry or the land frozen. Parsley wintering in cold frames should be cleansed occasionally, and abundance of air afforded it in mild weather.

FRUITS UNDER GLASS.

By T. H. C.

Strawberries in Pots.—It is time that the plants were removed to their winter quarters if the operation has been delayed so long. Plants that were started on a bed of tree-leaves in a pit towards the middle of last month may be removed to the shelves of the Strawberry-house, or to a similar position in fruit-houses that were started last month, which have a minimum temperature of 50°. The present is a good time to start a batch of plants to produce ripe fruits early in March, but unless the crowns are well developed and the pots filled with roots, forcing at this date will not be attended with the best results. Let these plants be put in the place of those just removed from the pit of tree-leaves, the mild bottom-heat of which will cause sufficient growth at present, harder forcing at this stage being most injurious. Remove all decayed leaves from the plants, and stir the surface soil, working-in a light sprinkling of an approved fertiliser. Admit air freely in fine weather when the temperature approaches 50°.

Peaches and Nectarines.—Assuming that preparations for starting early Peach-houses have been made, as were advised in the Calendar for Oct. 3, the house containing trees to produce ripe fruits in May may now be closed. Do not use any artificial heat during the first ten days, unless it be to keep out frost. After this period afford a night temperature of 45° to 50°, which may rise from 5° to 10° during the day. Make sure that the borders are thoroughly moist down to the drainage, and without syringing the trees until the hot-water pipes are used, maintain a moist condition of the atmosphere by damping the paths and other surfaces in the house. Trees started in the middle of November may now be afforded a night temperature of 50°, with an equal rise during the day. Avoid high temperatures until the fruit is set, as excessive heat has a weakening effect upon the flowers. Syringe the trees lightly twice daily in fine weather until the flower-buds open, and just before the trees reach this stage vaporise the house with XL-All; this will keep the trees free from aphides until some time after the fruit is set.

Succession-house.—Proceed as fast as possible with the pruning and cleansing of trees in succession-houses, and let the measures taken for securing clean, healthy trees be as thorough as the circumstances require. Good cultivation is better than all insecticides, so to speak, therefore see that everything which tends to promote a healthy, free-

growing, and fruitful tree is done at this season. Imperfect root-action is the cause of more failures in Peach cultivation than anything I know of, and where the roots are not under the gardener's control in properly made and well-drained borders, steps should be taken without loss of time to remedy matters by lifting and replanting the trees in prepared borders, as recommended in a recent Calendar. Restriction of the roots in the case of young trees induces early fruitfulness; but where the roots are allowed an unlimited run, the resultant growth is usually gross, and it matures imperfectly. The roots in such cases should be pruned, and the growth next year will be less vigorous but more fruitful.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Ground Work.—Vacant beds and borders which will remain unoccupied by plants until the spring should be dug or bastard-trenched, and the surface left rough for the frost to act upon it. The amount and the nature of the manure to be dug-in should be ruled by the species of plants intended to be grown, which, to a certain extent, will also decide the depth to which the soil should be stirred, though deep digging nearly always pays for itself in the saving of labour in affording water, and the plants suffer scarcely at all. New beds and borders may be prepared at this time of the year, and if the top fertile soil is not sufficiently deep, say, less than 2 feet, the subsoil should be removed so as to afford this depth, and soil from a cultivated area substituted for it.

Manuring Shrubs.—Flowering shrubs are all the better for annual or biennial manurial dressings pointed-in with a garden fork and applied far enough away from each plant to prevent injury to the main roots, but well within reach of the feeding roots, the loss of a few of which by the fork is soon made good again. These will do much good to such things as *Hydrangea paniculata* and others which enjoy a rich larder. Mulches of manure are apt to be scratched about by the birds and their good effects lost.

Liliums.—Imported bulbs of hardy *Liliums* should be planted as soon as received, if the ground be in a fit condition; for storing them till the spring, even under the best conditions, exhausts them and delays root-action. Bury the bulbs from 4 inches to 6 inches deep according to size, and surround each with a handful or two of sandy soil.

Water-Lilies.—Where *Nymphæas* are grown in tubs some winter protection is required, and the best sort of protection is to sink the tubs permanently in the soil and cover each in frosty weather with a skeleton framework of narrow slats of wood thickly covered with bracken or straw, but removing these coverings in mild weather.

Christmas Roses (Hellebores).—Where these are grown in beds, ordinary garden-frames may be placed over them in order to protect the flowers from dirt, and to hasten the flowering. Single clumps may be covered with hand-glasses, which should be elevated a little above the ground, for if air be totally excluded the flowers will come tinged with green.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maldenhead.

Red Currants.—The winter pruning of these fruits can now be undertaken. The red variety fruits on the young and the old wood, and also on spurs. If summer pruning was carried out as advised in a former Calendar, the work needing to be done now is merely to shorten the leading shoots to various lengths as befits their position, and to cut back the lateral and weaker ones to 1 or 2 inches. Care should be taken in the case of young bushes that have not attained to their full size to cut the leading shoots to a strong bud pointing outwards. Keep the centre of the bush fairly open, so that the sun may reach the fruits.

The Black Currant.—The weaker shoots should be left untouched or removed down to the ground level, as may best suit the case; and in the case

of aged bushes, some of the main branches should be removed each year, and young vigorous shoots left to take their places. Young bushes should be pruned hard the first and second year. I fear that that pest of the Black Currant, the Currant-bud mite, is now pretty well established in all parts of the country, and no remedy that I am aware of has been found that will rid the plantations of the pest, or even check its ravages. A grower in this locality spent much time and money last season in hand-picking, but the result is failure; for this winter the bushes are as bad or worse than last year, and very little fruit was picked. I would strongly advise all cultivators who are troubled with the mite to uproot and burn their stock of bushes forthwith, and dress the ground with unslaked lime at the rate of 1 bushel to 3 square-yards; or, better still, the upper layer 6 inches deep may be charred. Young stock should be obtained from a clean source, and planted as far as possible from that part of the garden where the infected bushes grew. If it be considered desirable to raise young Currant-bushes, cuttings should now be selected, choosing well-ripened shoots about 1 foot long, removing the buds from the lower two-thirds in the case of red and white varieties, cutting the base square across, removing the tips, so that about four or five strong buds will show aboveground when they are planted. Let them be tied in bundles of fifty, labelled, and lay them in deeply where they will be sheltered from cold winds. They can be set out in beds in March next.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Cypripediums.—These form a useful and accommodating class of plants, but little injured by fogs that affect almost all other Orchid flowers. As a florist's flower, their popularity increases yearly, the varieties of colour being more numerous than in past years, when the old, well-known *C. insigne* was the only one that could be grown in quantity. For easy culture and floriferousness the autumn and winter-flowering *Cypripediums* have no equals, to say nothing of the lasting qualities of the blooms. I have had specimen plants at Westonbirt carrying their flowers in good condition for quite three months, and cut blooms last in an ordinary apartment for a month. When required, a well-flowered plant may be taken into the dwelling for a short period without taking any harm whatever. Amongst the varieties in flower at the present season are *C. Milo*, *C. Tityus*, *C. ceanothum superbum*, *C. triumphans* and *C. Harrisianum*. *C. Polletianum* and the many different varieties of *C. Euryades* are among the best and most richly-coloured hybrids; while a large variety of delicate shades will be found amongst the numerous forms of *C. Leeanum*, one of the best as a cut flower being *C. Leeanum giganteum*. Then the old species, *C. insigne*, which has played such a prominent part as a parent, still remains a great favourite, and has numerous varieties, differing in shades of colour from delicate yellow to those with deep purple-coloured spots and markings.

Winter Treatment.—*Cypripediums* are never inactive at any season, and to allow them to remain dry at the roots for any length of time is an injurious practice; on the other hand, a liberal application of moisture during the winter is not advisable, especially when a plant is flowering. Experience has taught me that a cool intermediate house is the proper one for all the above-mentioned plants, as in such the proper colours of the flowers are produced. It is essential that a moist atmosphere be always maintained, but even this must not be excessive in the winter. The cultivator should avoid a saturated state of the air of the house, especially during the night, when there is a lowering of the temperature; and before affording water always allow the plants to become moderately dry at the root. Do not afford water in dribbles, but always in moderately copious quantities. If everything be done to keep the plants clean, healthy, and sturdy, they will grow freely, and produce a good crop of flowers at the proper season.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, DEC. 5	{ Société Française d'Horticulture de Londres meeting.
TUESDAY, DEC. 8	{ National Chrysanthemum Society's Exhibition at Crystal Palace (2 days).
	{ National Sweet Pea Society's Annual Meeting at Hotel Windsor, at 2.30 P.M.
THURSDAY, DEC. 10	{ National Rose Society's Annual General Meeting and Dinner.
SATURDAY, DEC. 12	—Royal Botanic Society's meeting.

SALES FOR THE WEEK.

MONDAY, DEC. 7—
Bulbs, Roses, Perennials, Azaleas, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11.—At Stevens' Rooms, at 12.30, Bulbs, Japanese Lilies, Roses, Palms, &c.
WEDNESDAY, DEC. 9—
Palms, Plants, Azaleas, Roses, Herbaceous Plants, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11.—At Stevens', Bulbs, Roses, Palms, Azaleas, Lilies, &c.
FRIDAY, DEC. 11—
Orchids in variety at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement column.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —40°9.

ACTUAL TEMPERATURES:—

LONDON.—Dec 2 (6 P.M.): Max. 40°; Min. 32°.
Dec 3 (noon): 37°; overcast, calm.

PROVINCES.—Dec 2 (6 P.M.): Max. 45°, off Achil Head; Min. 28°, off Aberdeen.

WE are informed that the The National Royal Horticultural Society, when applied to in reference to holding the Dahlia Show in the new Hall, now halfway towards completion, set forth terms and restrictions which the Committee of the Dahlia Society considered prohibitive, and that in consequence the exhibition of these fine autumn flowers will be held next autumn at the Crystal Palace. We are not aware what reasons the Council of the Royal Horticultural Society may have for their decision, but, in the absence of such information, it seems a most injudicious and suicidal proceeding practically to debar the Dahlia Society from exhibiting in the new Hall.

One main object in erecting this building was to afford, as far as space and other circumstances permitted, opportunity for the special societies to hold their displays, and thus to lessen the objection that some feel to the multiplication of special societies. If the Society wants to retain her "colonies," and knit more firmly the bonds between them and the parent Society, this proceeding is rather calculated to have the reverse effect, and to perpetuate the objectionably narrow limitations inseparable from special societies, but which co-operation would tend to break down. We trust before it is too late that wiser counsels may prevail, or at

least that substantial reasons may be made public for the course the Council is reported to have adopted.

Amongst such reasons it may be found that the Fellows of the Royal Horticultural Society, and especially the regular exhibitors at the Drill Hall, have felt some inconvenience on occasions when special societies have held exhibitions concurrently with the Royal Horticultural Society's meetings. If the Dahlia or Auricula Society was to hold its exhibition on a day when no meeting of the Royal Horticultural Society was to take place, we do not know how the Fellows of the Royal Horticultural Society could complain, but until now this has not been the case. The shows have been held on a Tuesday, and not only have the Council found themselves sometimes unable to invite exhibits, other than novelties submitted for certificates, but the Committees have been obliged to sit upstairs in the canteen, and the new plants, flowers, &c., have been placed about in all sorts of unsuitable places because it was not possible to make better provision for them under such circumstances, whilst the crush in the Hall throughout the day has been inconvenient.

Horticultural Education in Prussia. THE following details, taken from MÖLLER'S *Deutsche Gärtner-Zeitung*, will be read with interest after what has been recently said about Versailles, and also in connection with the new garden of the Royal Horticultural Society at Wisley. The circumstances at the latter garden are not so propitious for research or for educational work as they were, or might have been, at Chiswick. The proximity to Kew alone gave advantages which cannot be expected at Wisley. Nevertheless, it is well to see what is being done in other countries, and to do the best we can ourselves under different conditions.

The Royal Gardeners' College at Dahlem, near Steglitz, is an institute intended for the education of gardeners and the furtherance of horticulture in Prussia. It was formally opened by the Ministerial Director, Dr. HUGO THIEL, President of the "Curatorium," on October 6 last, in the presence of the representatives of the State authorities and of various horticultural societies, corporations, patrons and friends. The buildings, as the President told his hearers, are not yet completed—a state of things not uncommon with all such buildings, as they are seldom quite finished on the opening day. No better means existed of hastening their completion than to fix a date for the opening, and in spite of all hindrances to abide firmly by it. The grounds and garden, on the contrary, are nearing completion.

The Institute was founded in 1823, on the proposition of the famous landscape gardener LENNE, in conjunction with the Horticultural Society of the Prussian States, which had been founded in the previous year.

In the carrying out his designs, LENNE had to deplore above everything the lack of sufficiently educated gardeners, and the necessary materials for planting an extensive new garden. The one was helped by the founding of a School of Horticulture, and the other by establishing at the same time a nursery.

This was first laid out in the Potsdam game plantation, subsequently (in 1844) transferred to Alt Gellow, and in 1894 given up entirely, because all the requirements could be sufficiently met by the private nurseries. The Institute has changed its domicile and extent several times. One section existed on land rented in 1853 from

the Royal Botanical Gardens at Schöneberg, and another remained in close connection with the Royal Gardens at Potsdam, and at the present time it is closely associated with the neighbouring newly-formed Botanical Garden; and from this connection great advantages are hoped for in the education and training of garden-botanists. Many changes have taken place in the methods of instruction and the arrangement of demonstrations and studies in landscape gardening and fruit and vegetable cultivation; these being carried on in the Royal Gardens, monetary assistance being afforded the Institute by the Hofmarschall Office, and it is hoped that this assistance will not be withdrawn. The Court-Garden Director took over the management of the Institute in 1866, and retained it till 1891, when he was succeeded by the Court-Garden Director VETTER from 1891 to 1896, VETTER being followed by WALTER, from 1896 to 1898. To him succeeded Court-Garden Director FİNTELMANN, the present holder of the office. Since the foundation eighty years ago 1,000 students have passed through the school, and the majority of them have made themselves eminent in official posts, or as gardeners in private establishments. The students at the present time number sixty.

Although local conditions and the personality of the first directors of the Institute naturally made practical gardening a matter of the first moment, other branches of horticulture were not neglected; and the first statute of the Institute had for its aim the training of landscape-gardeners, pomologists, flower-gardeners, and hybridists. To these aims it has always been constant, and the chief object in the establishment of the school at Dahlem has been the production of the best possible cultivators, for it was felt that in garden-practice a scientific foundation was required and needed, but which could not be afforded by the old arrangements and contrivances at Potsdam, more especially as a great number of schools of gardening had been established elsewhere which were better furnished on the scientific and practical sides.

Thanks to the monetary assistance liberally afforded by the Prussian Government, an institution will be formed which will meet all the requirements of an advanced horticultural education. For all students alike the first year's course must be spent in acquiring the essential foundations of their craft. The scientific side is dominated before all by botany, more especially by the study of plant-life and the physiology of plants, concurrently with chemistry and physics. Then follows a course of mathematics, drawing, and instruction in the cultivation of fruit, &c. Even for those students who do not go through the entire course, a good theoretical foundation will be afforded calculated to be of great value to the future gardener.

Speeches were made on the occasion of the opening by H. GUSTAVE FİNTELMANN, Director of the Royal Gardeners' School, Potsdam, by his Excellency FREIHERR VON CRAMM BUEGDORF, Director of the Prussian Horticultural Society, Regierungsrath; Professor Dr. A. ENGLER, and the Royal Horticultural Director, TH. ECHTERMEYER. The plan of the Institute buildings given in the *Deutsche Gärtner-Zeitung*, shows an oblong plain building, abundantly lighted with round-headed windows, and having partly underground rooms, with porter's lodging, heating apparatus, &c., a ground floor, and two stories over it.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—We are pleased to announce that the annual festival dinner in aid of the funds of this Institution will be held at the Hôtel Métropole, London, in June next, when, we understand, HARRY J. VEITCH, Esq., the Treasurer, will preside. The exact date will be announced later.

**** OUR ALMANAC.**—According to our usual practice, we shall shortly issue a *Gardeners' Chronicle Almanac* for the year 1904. In order to make it as complete as possible, we shall be obliged if Secretaries of Horticultural, Botanical, and allied Societies, or any of our correspondents, will send us **IMMEDIATE INTIMATION** of all fixtures for the coming year.

CASTLEWELLAN.—It has often been our good fortune to notice or illustrate some of the choice trees and shrubs which have been collected with so much taste and judgment by the Earl ANNESLEY at Castlewellan, Co. Down. Fellows of the Royal Horticultural Society will also remember the valuable paper contributed to the *Journal of the Royal Horticultural Society* by Lord ANNESLEY, and many of them, as well as arboriculturists in general, will be interested to know that, under the title *Beautiful and Rare Trees and Plants*, his lordship has increased our obligations to him. The work is illustrated with seventy reproductions of photographs taken by himself, and is published at the office of *Country Life*. For the moment we must content ourselves with the mere announcement of the publication, but we shall shortly give a more extended notice of the book.

NATIONAL ROSE SOCIETY.—The annual meeting will be held in the rooms of the Horticultural Club, on Thursday, December 10, at 3.30. The annual dinner will be held on the same day at the Windsor Hotel, Victoria Street, Westminster, at 5.30 P.M., H. V. MACHIN, Esq., in the Chair.

ROYAL SOCIETY.—At the annual meeting held on November 30, Sir ARCHIBALD GEIKIE was elected Secretary in place of Sir MICHAEL FOSTER, resigned. The meeting was unusually largely attended, as it was thought by many that the new Secretary should be, like his two immediate predecessors, a biologist. This view did not obtain with the majority, and a geologist was appointed. Much of the President's address was taken up with the discussion of the relations of the parent Society to its offshoots, the special Societies. When published it will be interesting in relation to our own special Societies to observe the line of action recommended by the President of the Royal Society, the oldest and most illustrious of all similar bodies in this country.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, December 7, 1903, when a paper will be read by Mr. EDWARD THOMAS SCAMMELL, F.R.G.S., entitled "The Preservation of Timber, with special reference to its protection from Dry Rot and the increase of its usefulness for Estate Fencing and other purposes." The chair will be taken at four o'clock, this being one of two ordinary general meetings held for the convenience of country members in the afternoon instead of in the evening. With a view of encouraging the reading of papers at the ordinary general meetings, the Council have decided to award a Gold Medal for the best paper, if of sufficient merit, read by a member of the Institution during the Session.

THE HURRICANE IN THE WEST INDIES.—We are glad to hear from a correspondent in Jamaica, that the vegetation in that island has again shown how wonderfully fertile is the soil there. Since the devastating hurricane that visited Jamaica on August 11 last, vegetation has recovered itself to a surprising degree, and now that people have survived the shock which the scenes described in our pages on September 19, occasioned, and the fallen trees and other vegetation have been removed, it is felt that the island has not suffered so much permanent loss as was feared at the time.

METHODS OF DESTROYING MEALY-BUG ON VINES.—Several gardeners have written calling attention to the danger of the use of petroleum on Grape-Vines as the winter dressing. We think that if used in the proportion of one wineglassful to one gallon of soapy water, the whole being constantly well stirred with a stick or agitated with a syringe, it is both safe and efficient. We remark that Mr. H. W. WARD, in his article in the *Gardeners' Chronicle*, p. 366, advises two wineglassfuls. This may have been a slip of the pen, and we should prefer to use only one glassful.

M. KETELEER.—From the French papers we learn of the death, on the 12th ult., of M. KETELEER, in his 91st year. M. KETELEER was as well known and as highly appreciated among a select circle in this country as he was by his own countrymen. In connection with his associate THIBAUT, his firm took a very high place in the introduction and cultivation of new and rare plants. His name will be perpetuated in the genus *Keteleeria*, formerly considered as a section of the genus *Abies*, but more full information has amply confirmed the justice of M. CARRIÈRE's determination of the plant as constituting a new genus.

"THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY."—Among the most striking features consequent on the regeneration of the Royal Horticultural Society has certainly been the great improvement in the *Journal* of the Society. The Secretary, being a busy man, has found time to edit the periodical, and to get around him a willing band of helpers, by whose joint efforts the *Journal* has been so improved that each Fellow gets much more than his guinea's worth. The part before us, dated October, 1903, contains a very valuable article on the pests of the orchard and fruit-garden, illustrated with coloured plates, by Dr. COOKE, an article which we hope will, with others, be hereafter published separately. M. LEMOINE's paper on the forcing of shrubs by means of ether vapour will be read with great interest, as it is a matter which concerns the professional florist quite as much as the botanist. Anything from the pen of Mr. NICHOLSON will be read with respect; his notes on little-known trees and shrubs form no exception to the rule, but rather lead us to ask for more. As a forecast of the fine things which we may expect from Central China, Mr. JAMES H. VEITCH's article will be keenly read, especially by those who saw the wonderful collection of dried specimens collected by Mr. E. H. WILSON, and exhibited last spring at the Royal Horticultural Society by Messrs. VEITCH. Many of these are already in cultivation at Coombe Wood, and afford an answer to those who think the supply of "new" plants is exhausted. Of several of these plants photographic illustrations are given, but process blocks are not in all cases suitable for the illustration of plants. This paper will form a valuable record, to which gardeners and botanists alike will be glad to refer in the future. Professor HENSLOW's paper, entitled "Natural Selection versus Adaptation" seems somewhat of a misnomer if the two epithets be, as we suppose, for, practical purposes, synonymous. Mr. HUDSON's paper on "Blue Nymphæas and their Culture" will appeal to most cultivators of these lovely plants. Mr. HUDSON has succeeded, as many of our readers know, in raising a seedling variety of *N. gigantea*, which surpasses the typical form in size and depth of colour. Miss BRADLEY's communication on bottling fruit will appeal more strongly to those concerned, another season, when we may hope to have more fruit to bottle. The note on "The Peculiarities of the Cape Flora," by Prof. HENSLOW, should be studied attentively by cultivators, not so much

with a view to imitation of conditions which can only be partially effected, but for the purpose of ascertaining how and by what means Cape plants can be made to adapt themselves to cultivation under altered circumstances. Cucumber growers and Tomato cultivators will do well to study Mr. MASSEE's paper and follow his directions. Another paper showing original observation is that of Mr. BARTHOLOMEW on the development of the roots of the Daffodil, a paper we should like, did space allow, to condense, but it is best to call the attention of cultivators to it and let them make their own abstract. In addition to papers read before the Society, others communicated to the Horticultural Club are included, so that to that extent the Club and the Society are amalgamated. Reports on the various subjects submitted for trial at Chiswick are added, but some further details seem to be needed—as, for instance, in the case of Irises, little help is given to the gardener in distinguishing the several sections into which the genus is here divided; and a similar remark applies to Peas and Beans. Among the commonplace notes, we endorse the urgent appeal for funds to complete the new Hall and endow the new garden, and if the extremely meagre funds at the disposal of the Trustees of the Lindley Library were increased by even modest contributions from the Fellows more could be done than is now possible with the exiguous income possessed by the Trustees. The abstracts from current periodicals continue to be published, and a very valuable feature they constitute. The little note headed "Advertisements" on p. cvi. is surely hardly in good taste. It reminds us of the advertisements of quack medicines or patent foods, and of the means taken by a great journal to push the sale of a book in which it is interested. When periodicals of the highest repute adopt such questionable methods, we cannot expect the dignity and independence of the Press to be upheld by journals of lesser standing, and so the Press will become vulgarised and lowered in the readers' estimation, without any compensatory advantage. This is, however, a small matter in comparison with the general excellence of the number, which we hail with satisfaction as showing the progress the Society is making—progress due in very large measure to the judgment, zeal and industry of the Secretary.

POTATOS.—High prices, says Mr. MALDEN, do not make good Potatoes; but good Potatoes make high prices.

AGRICULTURAL RETURNS.—The Board of Agriculture has just issued a very valuable series of returns showing the acreage under various crops, and the number of horses and other animals in each county of Great Britain, &c. It may be had for 6d. from EYRE & SPOTTISWOODE, East Harding Street, Fleet Street. It demands the serious attention of landowners and cultivators. Most of the details are beyond our province, but we may mention that, according to the figures here given, the quantity of land withdrawn from arable cultivation during the year amounts to 172,000 acres; so that now, on the whole, there are 3,000,000 acres fewer under arable culture than there were thirty years ago. The reduction was greatest in Essex, 12,000 acres; Wiltshire, 9,000 acres; and Gloucestershire, 8,000 acres. In Scotland a corresponding reduction has not taken place. The marked decline in Wheat culture is attributed to the unfavourable sowing time. The decrease by nearly 10,000 acres of the area under Potato culture is also attributed in part to the same cause as that operating in the case of Wheat. In Scotland and Lincolnshire there was, however, a slight increase of the acreage devoted to Potato culture. Turning to the entry "small fruits," we find a slight increase in 1903; thus in 1903 the total acreage

devoted to this culture is given as 81,273, against 80,385 acres in the preceding year. The great decline in arable culture is not wholly uncompensated. The increased area of market-garden culture, and especially of cultivation under glass, is not mentioned, though it is obvious enough to anyone passing through the outskirts of London and other large towns. The gardener with his relatively few acres obtains an amount of produce in Grapes, Tomatos, Cucumbers, flowers, that would excite the astonishment of a farmer. At the same time the number of workmen employed is relatively much larger than is the case in purely agricultural pursuits. The free introduction of Baltic timber and Belgian glass has much to do with the prosperity of the grower for market, and is one of the innumerable items which should occupy the attention of those concerned in fiscal reform.

STERCULIA DIVERSIFOLIA.—The seeds of this Australian tree contain, according to Mr. TURNER (in the *Proceedings of the Linnean Society of New South Wales*, June, 1903), 1·8 per cent. of caffeine. Mr. TURNER also says that after roasting the seeds in a similar way to Coffee, he made a "capital beverage." The leaves also are eaten by stock.

"ICONES SELECTÆ HORTI THENENSIS."—Two parts of this important publication are before us. They appeal more particularly to garden-botanists, being full of valuable critical notes and beautifully illustrated by lithographic plates. The plants are selected from those growing in the garden of M. VAN DEN BOSSCHE at Tirlemont, and the botanical details are supplied by M. DE WILDEMAN, of the Brussels Botanic Garden. Among the plants figured in the fourth volume, tab. cxxix., is *Schaueria calycotricha*, a yellow-flowered, *Justicia*-like plant, frequently cultivated in our hothouses.

ROYAL TRADESMEN.—We learn from the *Irish Times*, of November 28, that Messrs. CHARLES RAMSAY AND SON, the Royal Nurseries, Ball's Bridge, have been appointed florists to His MAJESTY in Ireland.

W. HORNE & SON'S FRUIT-TREE SALE.—This firm of nurserymen at Perry Hill, Cliffe, near Rochester, write: "We are just sending you a line to tell you we had a very successful fruit-tree sale. There was a good demand for Apples especially; Plums rather better than last year; Pears good, and Gooseberries much advanced in the last six weeks. The two new varieties of Potatoes, Northern Star and Sir John Llewellyn, are very much higher in price."

THE GERMINATION OF ORCHIDS.—M. NOËL BERNARD has lately been experimenting upon and studying the germination of species of *Cattleya* and *Lælia*, and communicates the results of his work to a recent number of the *Comptes Rendus* of the French Academy of Science. *Cattleya* and *Lælia* seeds, or that of their hybrids, were selected because these germinate most freely under glass, and are usually sown in damp sawdust. After a fortnight the embryos produce small "spherules" or globular bodies, conspicuous by their green colour. They remain for some time at this stage—sometimes they do not develop further, and the seed sooner or later dies from the attack of a parasitic mould; otherwise, after a varying period, which may be as much as one or two months, growth is started and proceeds. Germination is always slow and irregular; often after four or five months the most advanced plants are not higher than 5 mm. These little plants are then top-shaped, widened at the peg, where the terminal bud is formed. They are always more or less covered at their tip, to which the suspensor is attached, by a filamentous fungus. M. BERNARD's experiments have shown

that the penetration of this fungus is an essential condition in the germination of Orchid seeds. This has been previously suggested, but the proofs now offered have not hitherto been obtained. If the fungus is present germination succeeds, if its presence is prevented then the embryo ceases to develop. Without following M. BERNARD into all his details, we confine ourselves to saying that, according to him, the embryo Orchid will no more develop into a perfect plant without the assistance of the fungus than an egg can go through its evolution if it has not been fertilised. It will be remembered that a similar "symbiosis" has been pointed out in the germination of seedling Oaks and other plants.

PRESENTATION.—On Friday evening, November 27, the members of the Bowhill Horticultural Association presented their secretary and treasurer, Mr. JOHN C. LUNT, gardener to His Grace the Duke of Buccleuch, with a handsome gold Albert chain, in consideration of the success with which he had carried out their annual show, and the faithful manner in which he had discharged his other duties. Mr. LUNT thanked the members for their handsome gift.

THE "GARDENER'S ASSISTANT" is now to be had from the Gresham Publishing Company, 34, Southampton Street, Strand, for a preliminary payment of 4s., to be followed by eleven monthly payments of the same amount. This affords an excellent opportunity to young gardeners and others to secure the standard book on practical gardening, edited by Mr. WATSON, of Kew, on easy terms. For further particulars see our advertising columns.

THE PROPOSED GARDENERS' ASSOCIATION.—Mr. A. DEAN writes: "Kindly permit me to state in your columns that, with the sanction of the Horticultural Club, a meeting of head gardeners, inclusive of the recent Dinner Committee, will be held, at the Club Room, Hotel Windsor, at 2 P.M., on Tuesday, December 15, for the purpose of taking the proposals in favour of such an association into consideration. Attendance will bind no one to any particular scheme; what is desired is the full expression of opinion in relation to these proposals. If there be a real desire to form such an association, and I observe the approval of so estimable a man as Mr. JAMES DOUGLAS is given to the suggestion, then the association will be formed. If there be no such desire, then there is an end of it. Head gardeners desirous of being present will be welcomed, so also will their opinions in writing." [The scheme requires to be very carefully considered as to its objects, and the best way of carrying them out. No proposal can be entertained in the absence of a definitely-thought-out and properly formulated programme.]

BOTANY OF THE DARLING RIVER, NEW SOUTH WALES.—Mr. TURNER has contributed to the *Proceedings of the Linnean Society of N. S. Wales* an interesting paper on the botany of the area drained by the Darling River. The country consists of immense treeless plains, separated here and there by large belts of timber. The mean temperature is about 69·7°, the highest temperature in the shade 127°, and the lowest 28°. The rainfall varies from 9½ inches in the west to 19½ inches in the east. *Eucalyptus microtheca* is mentioned as a very beautiful tree when in flower, and several of the *Cruciferae* have comparatively large flowers, and are worth garden culture. *Capparis Mitchellii* produces its showy flowers in the driest season, and never fails to attract attention. *Clanthus Dampieri* is one of the most attractive plants of this region, and is well known in cultivation; so are various species of "Everlasting [Flowers]" (*Helichrysum*, &c.). Many of the species of *Eremophila* are worth the attention of horticulturists for their ornamental

appearance and for the profusion of their charming flowers. A similar remark applies to the species of *Trichinium*, of which one species, *T. Manglesi*, is an ornament of our greenhouses. Two *Conifers*, presumably *Frenela robusta* and *F. Endlicheri*, occupy immense areas, and would properly treated, prove a valuable asset. The pseudo-bulbs of *Cymbidium canaliculatum*, the only Orchid mentioned, contain a small quantity of starch, and are eaten by the natives. One species of *Crinum* and two of *Calostemma* make a magnificent display which would astonish any botanist or horticulturist. Mr. TURNER tells us that he has cultivated them successfully near Sydney. Altogether Mr. TURNER enumerates 760 species, belonging to 314 genera.

PRESENTATIONS TO MR. SAMUEL HEARN AND MR. MORTER.—The men employed in the parks and open spaces under the Birmingham Corporation met at the "White Swan" Hotel, Birmingham, on November 23, for the purpose of presenting Mr. S. HEARN with a gold watch, suitably inscribed. Mr. HEARN has recently retired from the management of the parks and open spaces on a pension, after a period of service of about thirty years. Mr. LONG, keeper of the Aston Park, who made the presentation, was supported by Alderman JOHNSON, Mr. COX (Secretary to the Parks and Baths Committee), and Mr. W. H. MORTER. Mr. MORTER, the newly-appointed successor to Mr. HEARN, has removed from High Elms, Farnborough, Kent, and before leaving was presented with a case of silver and cutlery, subscribed for by the employees of Lord AVEBURY and a few friends.

THE NATIONAL CHRYSANTHEMUM SOCIETY'S last exhibition for the present season will take place at the Crystal Palace, on Tuesday and Wednesday next. Our announcement last week for December 2 was incorrect, as the dates were altered since the publication of our Almanac.

A HORTICULTURAL COLLEGE AT WISLEY.—The Surrey Education Committee have, according to a paragraph in the *Standard*, under their consideration a Memorandum, prepared by Mr. J. R. DUNSTAN, Principal of the South-Eastern Agricultural College at Wye, and Mr. H. MASON, Secretary to the Committee, on the question of the desirability of establishing a horticultural college at Wisley, Surrey, in close proximity to the gardens there recently presented to the Royal Horticultural Society. The suggested college would be regarded as a branch of Wye College, which is maintained by the counties of Surrey and Kent; and it is believed that the Royal Horticultural Society would be willing to co-operate in the matter, and be prepared to give facilities for students receiving scientific tuition in the college to have practical instruction in horticulture in the Society's gardens. It is suggested that a forestry station, financed by the Board of Agriculture, might also be established in connection with the college. Information as to the Society's intention in connection with the new gardens at Wisley is awaited before a definite proposal is put before the Education Committee and the County Council. We may remark that this proposal has special reference to the education of students. What the Scientific Committee is urging on the consideration of the Council is a department for investigation and experiment on matters directly connected with practical horticulture. The two proposals are different, but by no means antagonistic.

WINDOW-GARDENING IN EAST LONDON.—We have pleasure in publishing the following letter from the Rev. RICHARD FREE:—"Will you allow me to appeal to the generosity of those of your readers who are interested in window-gardening among the poor and have resources at hand? They can help us very materially by sending us at once bulbs of Tulips, Daffodils, and

"Crocuses of the best and brightest colours. We do not want later in the season gardeners' leavings, which nobody can use. That is not the idea. If the dreariness of the East End is to be brightened at all it should be brightened by the best. Our Window-Gardening Society has done wonders for the West Ferry Road, but it ought to do a great deal more. The freshness, fragrance, and beauty of the country could easily be brought home to the dwellers among these sordid surroundings if only our friends would do their best to help us. And if contributions in kind are not forthcoming we are in no wise averse to accepting money, for the expenses of a venture of this kind are heavy, and are apt to prove an unusual drain upon the church funds.—*Richard Free, St. Cuthbert's Lodge, Millwall, London, E., November 26, 1903.*"

UNIVERSITY OF LONDON: LECTURES IN ADVANCED BOTANY.—Mr. HALL's seventh lecture dealt almost wholly with the grass-plots at Rothamsted, using them as illustrations of how a particular flora is formed by competition among species more or less adapted to their environment. The aspect of any meadow represents the result of severe competition among the various species represented; the dominant ones are those most suited by the amount and nature of the plant-food in the soil, the water supply, texture and other factors. If any of these factors be altered, as they are in the Rothamsted plots by manuring in different ways, the original equilibrium between the contending species is disturbed; some are favoured and increase at the expense of the others, until a new equilibrium is obtained and the general character of the herbage, from a botanical point of view, is completely altered. Thus the Rothamsted grass-plots, which have been under treatment for forty-eight years, show entirely different classes of vegetation. On some plots, where no nitrogen is used, Clovers predominate, in some seasons 60 per cent. of the herbage consisting of leguminous plants. With nitrogenous manuring the grasses predominate, Clovers and weeds being almost entirely crowded out. Further, the species chiefly in evidence depend on whether the nitrogen is supplied as nitrate of soda or sulphate of ammonia, the latter favouring shallow and the former deep-rooted grasses. The effects of phosphates or potash, of lime and organic manures was also discussed, both as regards the crop and the botanical composition of the herbage. The next lecture, the last of this series, will be given at the Physic Garden, Chelsea, at 3 P.M., on December 8, and will deal with the association generally of particular floras and crops with special types of soil.

"THE BOOK OF GARDEN FURNITURE."—By CHARLES THONGER. (JOHN LANE: The Bodley Head, London and New York.) Among garden structures dealt with in this book are summer-houses, arbours, pergolas, bridges, and fencing of various descriptions—all included for convenience under the general title of furniture. Mr. THONGER speaks first of seats, and we fully share his disapproval of so-called "rustic" benches covered with real or sham fir-cones that were once popular, though many "artistic" seats are, in their way, scarcely more ornamental. Garden and summer-houses are next mentioned, and here also a plea is entered for useful and sensible erections suited to their situation. To bridges in gardens the author has a reasonable objection, unless their introduction is necessary for the connection of lands of different levels, or for a passage over deep water. Statuary, too, of all descriptions Mr. THONGER can only recommend under special circumstances where it is in keeping with its environment. In the choice of garden furniture it is probable that individual taste will still be exercised, and shell borderings and pretentious stone-work will continue to offend the trained eye. Our author has at

least done his best in support of more appropriate articles, and we must also mention the many illustrations with which his book is furnished.

"PICTORIAL PRACTICAL BULB GROWING." By WALTER P. WRIGHT and HORACE J. WRIGHT. (CASSELL & Co., Ltd., London, Paris, New York, and Melbourne).—This is described as being "a concise guide to the culture of all the most important bulbous, tuberous, and allied plants," and so is of wide scope. "Technically, although a Hyacinth is a bulb, a Begonia is not . . . We have included all the favourite flowers which a broad view associates with bulbs, and left out some minor plants which really are bulbs as not deserving space in a small handbook." The book has a diagram which many amateurs will appreciate, as it shows them plainly at what depths to plant their bulbs and tubers. The right situations for different subjects are also considered.

lack of time and of workers to investigate them, have had to be omitted from the present volume. Since the work was first entered upon nearly every parish has been visited and searched, either by the author or by helpers co-operating with him." The first part of the *Flora* deals with the county rainfall, with climate, and soils and species, the bulk of the volume being taken up with a list of plants and brief description of the habitat, &c., of each. The total number of flowering plants in the county amounts to 1,031 species, representing 187 genera and 41 orders. Of the above number of plants 878 come under the headings of natives, colonists and denizens; 74 of the remainder being aliens, and 49 casuals. Two maps are appended, one showing the divisions of the county, the other is a geological chart. The central position and varied elevation and soil give the county exceptional interest, so that botanists will cordially welcome the work of

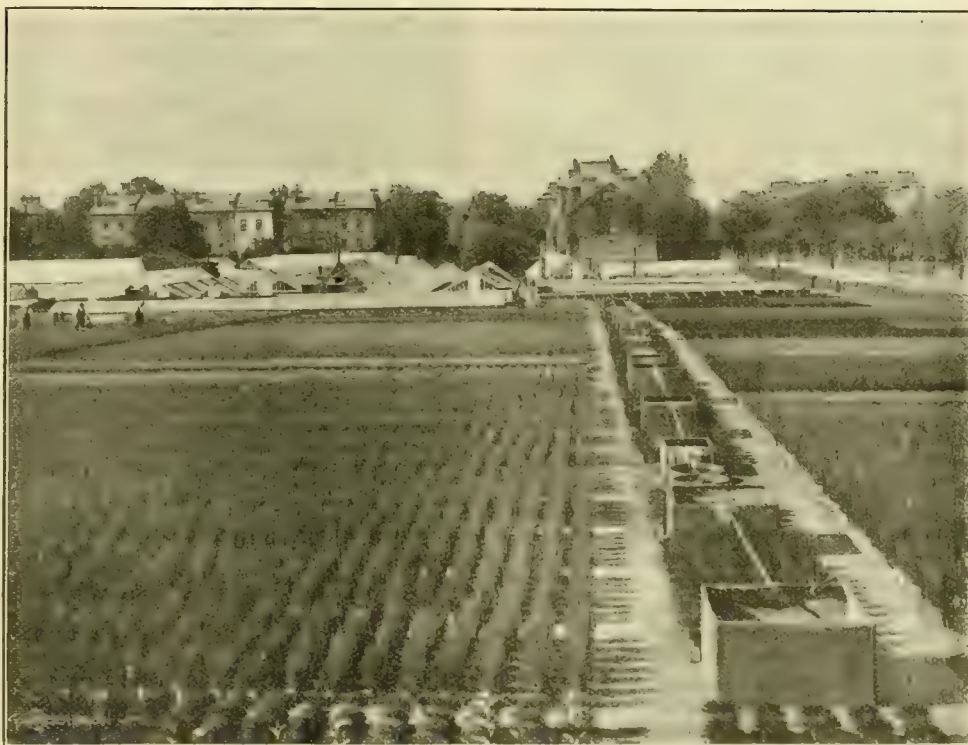


FIG. 156.—HEATH-CULTURE AT MESSRS. B. MALLER AND SONS, LEE, KENT.

Bulbs in pots, glasses, bowls, &c., are treated of—in fact, outdoor and indoor cultivation generally. The authors then deal with bulbous plants in alphabetical order, from Achimenes to Tulips, giving, as said before, a wide significance to the word "bulb." The directions are practical and to the point, and the illustrations are very pleasing. Altogether, the volume should be useful to many. The book is uniform with others of the "Pictorial Practical" series, several of which have already appeared.

"FLORA OF DERBYSHIRE:" Flowering Plants, Higher Cryptogams, Mosses, Hepatics, and Characeæ, by WILLIAM RICHARDSON LINTON, Vicar of Shirley, Derbyshire. (London: BEM-ROSE & SONS, LTD., 4, Snow Hill, E.C.) The preface of this book gives a good account of its progress and aim. We read that "the project of producing a *Flora of Derbyshire*, announced in the *Journal of Botany* in 1896, is so far accomplished that it seems desirable at length to publish results. The present work cannot be regarded as much more than a stage forward towards a complete account of the botany of the county. It is to be regretted that some departments, as Fungi, Lichens, and Algae, owing to the

an experienced worker. The book is carefully drawn up and forms a valuable addition to our county Floras.

MARKET PLANTS.

HEATHS.—In going the round of the autumn auction-sales of pot-plants, one gets a good idea of what is being done in the trade. It has been suggested that Heaths are not likely to be so much in demand as formerly; but from what I could gather at the sales there is not much falling off at present. In all the big Heath-growing nurseries the stock appeared in the best of condition; in some instances the plants may not be set with flower quite so well as when we get brighter weather, yet many were fully equal to anything I have seen in former years. And though they were sold at moderate prices, it was evident that there is still a large trade for this class of plants. *Erica hyemalis* is grown in the largest quantities, *E. gracilis* comes next; *E. persoluta alba*, *E. candidissima*, *E. Wilmoreana*, and *E. Caffra* are all grown extensively; and *E. Cavendishi* is a favourite, and when well in flower commands good prices. *E. ventricosa* mag-

nifica is another of the choicer sorts which the market growers now find valuable. Considering the time it takes to make well-finished plants, it is surprising that growers continue their culture of it—at the prices they now make, there can be little margin left—but it is chiefly owing to the fact that they come in at a time when there is little else to fill the market stands.

Culture.—The cuttings are put in during August and September. It is from the plants that have been under glass that the best cuttings are obtained. In the preparation of the cuttings plenty of clean crocks are used, peat and sand in equal parts sifted through a fine sieve, and pressed into the pots firmly with a surfacing of sand. If the sand is inclined to "cake" it is thoroughly washed before being used. The system of covering each pot with a bell-glass is still adhered to by some, but some growers do them in close frames. They remain in the cutting-pots until early in the year, when they are potted off singly into small thumbs, and later on they are repotted into 60-size pots and go out into frames. They have to be stopped several times during the season. The time for potting on into the flowering-pots varies with different growers from January until March, or I have known them potted even later than this. After potting they remain in pits until the end of May or early in June, when they are placed in the open. The Heath-ground is always well prepared with plenty of ashes. After they are in the ground there is little to be done except to attend to watering; but this is no mean task, for it is one of the most important points in the successful culture of Heaths to give careful attention to this matter. Manure is used to some extent, and soot-water is much favoured by some growers. The plants are left in the open as late as possible, except those which have set their bloom early, and these are taken in to get them on into flower as early as possible. For though the early trade is not so good as it may be later on, the aim to be "first" in the market with any subject is always a dominant feature with our Covent Garden growers.

It will be seen that it is a little over two years from the time of putting in the cuttings to the time of being able to market the plants, and it is therefore only by growing in very large quantities and on the most economic lines that success can be attained. Most of the Heath growers grow considerably more than they can take under glass in the autumn, and at the sales large quantities are disposed of to others who have the room to finish them off for market.

I may add that most growers believe in a change of stock, and they buy from each other. This system of exchange of stock may be of interest, since the question of "wearing out" or "deterioration" has been raised in the columns of the *Gardeners' Chronicle*. A. Hemsley. [At fig. 156 is shown a view of the Heaths growing out-of-doors in August in the nurseries of Messrs. B. Maller & Sons, Lee, Kent. Ed.]

RIVERS' MONARCH PLUM.

Our illustration (fig. 157, p. 393), from a photograph, of the Monarch Plum affords an idea of the free-fruited property of this variety, the more especially in a season like that of this year. The tree is seven years old, is growing on a wall with a west aspect, and has never failed to afford abundant crops, that of this year being 65 lb. Two maiden trees of the same variety planted in the autumn of 1902 against a north wall gave respectively 12 to 14 lb. of fruit this year. The variety Monarch is therefore well worthy of a place in every garden, and being a very large, showy fruit, makes a profitable market variety. F. W. Church. [The fruits of this fine, abundant-cropping culinary variety ripen in September, and they do not, like many others, crack with heavy rain. Messrs. Rivers, in raising Monarch and The Czar Plums, have lengthened the Plum season by six weeks. Ed.]

HOME CORRESPONDENCE.

SLUGS ON CELERY.—Before we cook the hare, we must catch him! The same remark applies to slugs. We must trap them before we can kill them. We often hear people say, "I cannot keep the slugs off this or that plant." For my part, I don't try to keep them off, but rather like to get them on, and then prevent them getting off. To do this, I give them something they like better than what I want to save from them. This something is found in fresh bran; they prefer this for a change before most things. To trap them I sprinkle it along the tops of the rows of Celery (on the soil); this brings them to the surface, and having sampled this dainty morsel, they want more, and will seek for it. This bran must stay on two or three nights, to give them all a chance to taste it, and on the night selected for execution let a light sprinkling of bran be given again, about sunset, and if the atmosphere be dry instead of humid, a sprinkle of water through a rose-watering-pot on the tops of the leaves, sufficient to carry a little moisture down in the Celery, will further induce them to come out. Then, about 8 or 9 o'clock p.m., when they are busy at their feast, give them a good dusting with freshly slaked powdery lime, and in the morning you may count them by the hundred or thousand. But if it should be likely to rain within two or three hours after the liming should be done, defer the operation till another night. G. F. T.

POLLINATION OF SWEET PEAS.—I append an extract from the *American Florist* for October 24 last, p. 474. Mr. L. L. Morse is the largest grower of Sweet Peas in America, and has raised the best of the new varieties that have been sent out in that country:—

"Sweet Peas are never pollinated by bees. There are rarely any bees found among Sweet Peas, excepting bumble-bees, and they only take to full-grown blossoms. Sweet Peas are usually pollinated when quite young in the bud, and to cross them artificially it is necessary to take a very young bud. If the Sweet Peas were allowed to go to seed before any blossoms were gathered the seed would be all right, but the seed is rarely good when the first blossoms are gathered, and only the last and inferior blossoms allowed to go to seed."

S. B. Dicks, 90, Southwark Street, S.E.

DICTAMNUS FRAXINELLA.—On p. 338 (November 14), "M. B., Middleburg, Holland," said, "The derivation of the word 'Dictamnus' is absolutely unknown." May I remark that this is not so. The word is from Dictamnus, a city in Crete, on whose mountains the plant is indigenous. Thus says Dr. Robt. Hooper in his *Lexicon Medicum* of the 1831 edition. G. Paul, Meteorological Office, Harrogate.

NATIONAL ASSOCIATION OF GARDENERS.—The Royal Horticultural Society is the most natural medium through which such an association might reasonably be expected to have birth and flourish. The influence of the Royal Horticultural Society is very great, permeating as it does through most provincial associations which have become affiliated, and have adopted the system of medals, which act as a decided incentive to competitive members who value horticultural certificates. An announcement of the Royal Horticultural Society's countenance to the proposed project could not but advance the formation of such an excellent association as forms the subject of these notes. At least its recognised adhesion to the principle of a National Association of Gardeners seems desirable. Albert F. Upstone, Rotherham.

INCREASE OF IRIS STYLOSA.—From the notes that appear from time to time upon this Algerian Iris, some correspondents evidently experience difficulty in growing and flowering it satisfactorily. In the south-west it succeeds admirably, and increases very rapidly. Of the rapidity of this increase I have just had evidence. Seven years ago I gave six small roots to a nursery, and to-day, on visiting the grounds, found a sloping bed 15 yards in length and 3 yards in breadth entirely filled with fine clumps that had all been raised from my six roots. Considerably over

a hundred plants had also been sold. The bed was quite blue with flowers, for in the south-west these Irises commence to bloom about mid-October, and are crowded with blossom towards the end of November, while they continue to flower until the end of April unless checked by exceptionally severe weather. As cut flowers they are invaluable at this season of the year, as they possess a delicious fragrance in addition to their delicate colouring. S. W. Fitzherbert, South Devon.

CAMPANULA PUNCTATA.—This Campanula is but seldom met with, yet it is an attractive border plant with its drooping white flowers 3 inches in length. It grows to a height of 2 feet, and blooms freely in the summer; while secondary shoots often flower well into the autumn. I have to-day cut a short flower-spike bearing two perfect flowers. The individual blossoms are well worthy of more than a passing glance; the long trumpets, with their deeply-cut mouths, being profusely spotted in the interior with minute crimson dots. Being a native of Siberia, the plant is perfectly hardy, and succeeds well in any ordinary garden soil, though where this is light and shallow, and the summer is hot and parching, its growth compares unfavourably with the dimensions it will attain in rich, deep soil with ample moisture. S. W. F., S. Devon.

CISTUS LADANIFERUS.—The species referred to at Killerton is probably *C. cyprius*, which is very often sold under the name *ladaniferus*. The species properly so called is rare in cultivation. S. Devon.

GRAFTED ROSES.—In reply to your correspondent, "C. E. F. Allen," the treatment given in my last paper, to some points of which he takes exception, was the outcome of "personal experience" gained in a large West of England Rose nursery, also at an old-established nursery near London, besides the French establishment referred to, all of which were specially strong in Roses, and some thousands of new, scarce, and popular varieties were annually grafted and dealt with, besides Conifers, Rhododendrons, Camellias, Clematis, &c.; so I may fairly claim to know something about it. After the first week it was the usual thing to open the sashes in the morning (or with the French the *cloches*), increasing the length of time from one hour to several hours within a few weeks; and I maintain that half an hour or an hour (I refer now strictly to dormant grafts of Roses only), when the graft begins to push, is insufficient to dry up the excessive and condensed moisture always present under double glass; and I say further, if the hour limit is insisted upon, there will be more losses by damping than from leaving the sashes open some time longer; and, as you rightly observe, the slight lowering of the temperature, at the most 3° or 4°, would make no appreciable difference to the plants underneath; and, to sum up the matter, I think this treatment was more than justified by the successful take of the grafts. J. D. G.

THE OUTLOOK FOR GARDENERS.—The number of applications received in answer to advertisements of vacant gardeners' situations tends to show that there are many men of capability and undoubted integrity who are obliged to work for a guinea a week, because they are unable to find an appointment at a salary consistent with their ability and the amount of experience they have dearly gained. Such a state of things is very hard; but it is rendered more so by the fact that there are also many men employed as gardeners whose only qualification (?) is that of being able to push a wheelbarrow, but who seldom, if ever, think of reading a gardening periodical. These men, or at least some of them, it is much to be regretted, sometimes gain good situations through the influence of charitably-disposed persons who have been misled. I have noticed in many advertisements for men required to fill public gardening appointments the words, "canvassing members will disqualify"; but I venture to say this is often done in an indirect manner, and outsiders think it is an open competition. I am not writing as a disappointed candidate for any public gardening appointment, but I do think the best all-round

gardener should have a better chance of gaining a good situation than an incompetent man who is fortunate enough to have influence behind him. The scarcity of private situations is largely accounted for by the fact that gardeners who are in any respect comfortable are, wisely enough, loth to leave; landowners have not the money to expend on keeping up extensive gardens and pleasure-grounds, and undoubtedly have great difficulties to contend with, particularly if their income is derived from agricultural tenants in a season such as we have just experienced; and lastly, but not least, gardening in private situations is more or less of a hobby dependent on the whims of people, who, perhaps liberal in other respects, are apt to say, without taking into consideration the pleasure derived, "What do I expend on the garden yearly? Why, the produce I require could be bought at half the cost." What remedy can be suggested for the welfare of competent gardeners under such circumstances? Co-operation is useless unless carried out on very up-to-date lines, and by gardeners for gardeners. *F. James, 27, Warwick Road, Sutton, Surrey.*

HYDROCYANIC ACID GAS FOR THE DESTRUCTION OF MEALY-BUG.—On page 366 of the current issue of your valuable paper, I notice an article on "How to Eradicate Mealy-bug," over the initials of your esteemed correspondent, "H. W. W." I quite agree with him as to the thorough and effective nature of the treatment recommended, having myself carried out the work in a similar manner in the past. The method is perfectly simple, but on working out it entails a considerable amount of labour, which, in these days of economy, must be considered by employers of labour, whether in private gardens, nurseries, or market-growing establishments. It is not my intention to criticise the method recommended by "H. W. W.," but rather to emphasise again the urgent need for scientific methods in the working of our gardens if we wish to secure the best results. I am aware that various experiments have been tried with hydrocyanic gas or vapour in various parts of this country for the destruction of "mealy-bug" and other insect-pests, and that a certain amount of success has been claimed. In some instances, however, the damage to infested plants seems nearly equal to that incurred by the pest. Whether the fault exists in either the materials used, the methods employed, or an insufficient knowledge of both, has yet to be proved. The materials necessary are of a highly poisonous nature, and the amount of care required for "cyaniding" has perhaps been more or less a drawback to its becoming more generally used. The destructive nature of this vapour has long been recognised both at home and abroad. And provided the methods of application can be simplified so as to ensure safety to the plants and to the persons making use of the poison, there seems to be but few reasons why the remedy should not be generally adopted for the destruction of this injurious insect. On the side of economy it has at present, I believe, no rival, nor in the shortness of time required for completing its work. For the purpose of thoroughly testing the efficiency of this gas as a means of destroying insect pests, a series of experiments is now being carried out in the gardens and glasshouses of the Royal Botanic Society, Regent's Park. What is claimed by its inventor as "a new and simplified process" is being given a thorough test. And of its safety, with proper care, efficiency and economy in destroying the above pest, I have not the slightest doubt. Its effect on the eggs of insects has yet to be proved, and also on dormant plants, as Vines; but considering the fact that tender foliage has not suffered, this gas can scarcely be expected to damage protected buds. In addition to this, experiments are being conducted on the above and other insects in the soil, which, if found satisfactory, will certainly prove a great boon. *Elderbert F. Hawes.*

A HARDY AGAVE.—I have grown a few of these plants in my day. I saw Agave Parryi was stated to be hardy, but I do not know it, and perhaps it might interest me if I did; but I have one that I consider a very hardy little

plant, at least with me, viz., *A. utahensis*. It is grown in a pot in a cold pit along with Auriculas and other plants, and has been there for many years, nearly or quite thirty; and there it is now, to all appearances healthy and strong for such a small plant; the leaves more like iron, thick and stiff. It has never had any fire-heat to keep it alive. Sometimes by chance, if extra cold, a mat or thin covering might be thrown over the glass for the Auriculas, *Echeveria viridiflora* and *Opuntias* being companions. I think I have repotted it once during that time. There are

total absence of perianth-tube. The word "tube" is often used ambiguously and incorrectly by many who write about Daffodils, as if synonymous with "crown"; but in the analysis of a Narcissus flower "tube" is properly limited to the part of the flower between the attachment of the perianth segments and the seed-pod, whether that pod is developed or only rudimentary. In Dean Herbert's *Amaryllidaceae*, plates 38–41, will be found many sections and diagrams illustrating the tubes of the flowers of Narcissus. The tube of the species *N. pseudo-narcissus* is always funnel-

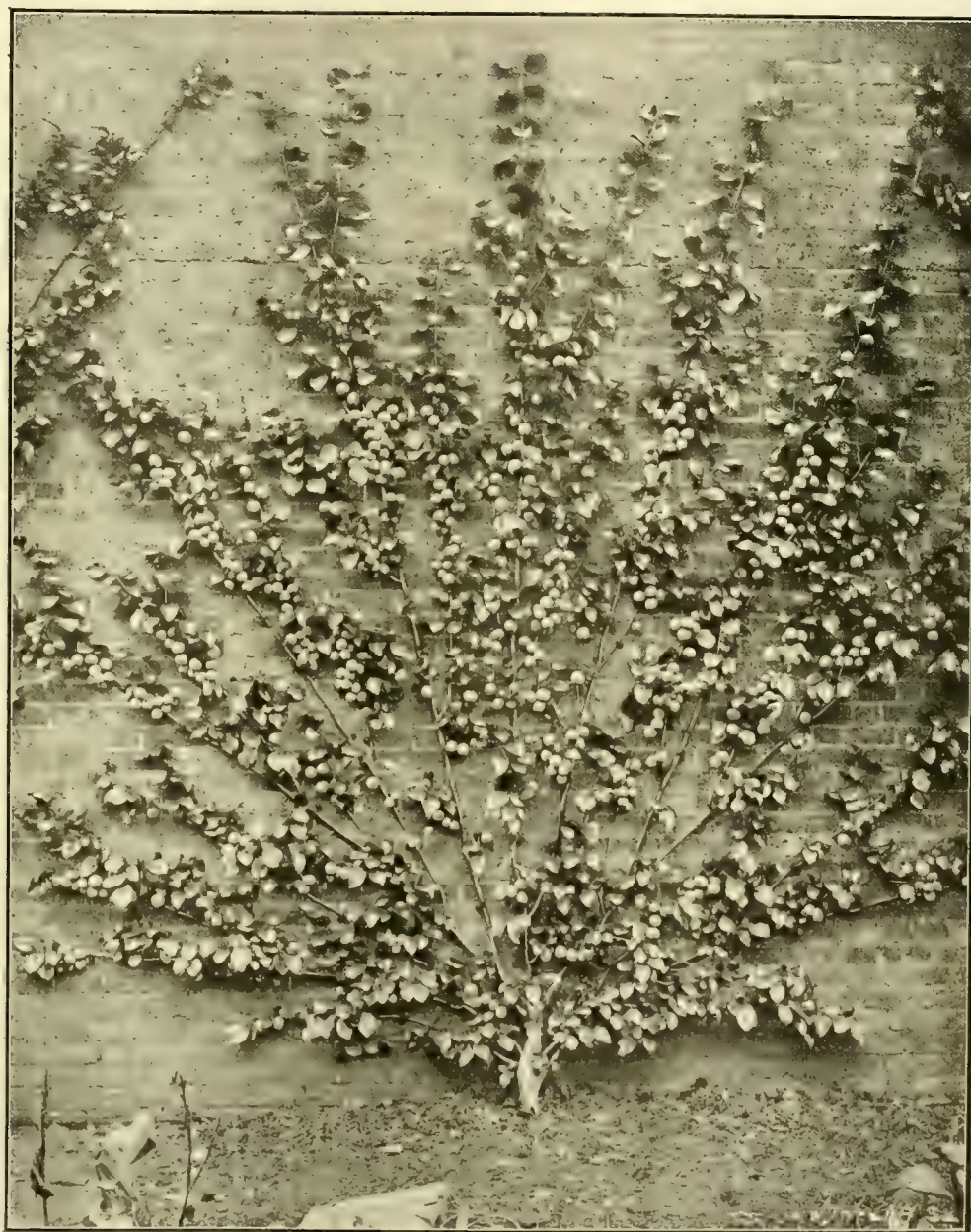


FIG. 157.—RIVERS' MONARCH PLUM GROWING IN THE GARDEN OF E. S. HANBURY, ESQ., POLES, WARE, HERTFORDSHIRE. (SEE P. 392.)

many hearts to it, but I do not trouble to propagate them, as I have two; and it being also a very distinct plant from any other I know of. *J. C.*

NARCISSUS CYCLAMINEUS.—On p. 205 of the latest number (October, 1903) of the *Journal of the Royal Horticultural Society*, there is an editorial notice of Mr. Bourne's *Book of the Daffodil*, in which the writer expresses regret that Mr. Bourne has not treated *N. cyclamineus* as a distinct species. I quite endorse this criticism. Ever since *N. cyclamineus* was re-discovered I have persistently urged that it ought to be separated from every other known species of Narcissus, as the flower has a very distinct and unique character in the

shaped and of measurable length, much shorter than the crown. In all the other species, except *N. Corbularia*, it is much longer than the crown, but in *N. cyclamineus* alone it is absent, the reflexed perianth segments being directly attached to the end of the well-developed and always fertile seed-pod. It was probably this anomaly which caused the acute botanical instinct of Herbert to disbelieve entirely in *N. cyclamineus* as "an absurdity which will never be found to exist." "I have no hesitation in rejecting it as a nonentity" (*Amaryllidaceae*, p. 306). Herbert knew the species only from the figure in *Theatrum Floræ*, a folio of well-executed engravings of flowers published in Paris in 1629, and attributed

by him to Rudbeck, though the date does not seem to fit either botanist of that name. But whoever was the author, the portrait of *N. cyclamineus* is excellent, and accurately shows the reflexed perianth segments attached to the end of the seed-pod. It is highly improbable that any combination of known species of *Narcissus* would have produced a tubeless hybrid. Of all the hundreds of hybrids of pseudo-narcissus now known to us I doubt whether there is one in which the tube is not lengthened if crossed with any other species. It therefore does not seem likely that the conjecture which makes *N. cyclamineus* a cross between the long-tubed *N. triandrus* and some variety of *N. pseudo-narcissus* has any sound foundation. *C. Wolley Dod, Edge Hall, Malpas.*

CAMPANULA VIDALI.—Seeing your illustration in the *Gardeners' Chronicle* for November 14 of *Campanula Vidali*, I may state that I remember growing this plant out-of-doors for two years in quite an open border, and it seems to need but little protection in the winter. I think that this plant will stand the winter almost without protection if the border is facing the south. We do not see the plant often in Kentish gardens. *W. Eglinton, Chislehurst.*

GRAPE GROS COLMAR.—Mr. W. Taylor, the able gardener at Tewkesbury Lodge, Forest Hill, has intimated his intention to bring to the Drill Hall, on December 15 next, a considerable collection of Grapes. I have asked him, as he has good Gros Colmar, to favour the Fruit Committee with a bunch, so that a fair comparison may be instituted between that and the Melton Constable Grape, again exhibited at the Drill Hall last week. The sample of Gros Colmar sent with that Grape was a bad one, whilst one at least of the bunches of Melton Constable was not in good condition. The latter grape has a very thin skin, and for that reason, like Gros Colmar, seems hardly capable of being kept late. Unfortunately we cannot see it again this winter. A grape that is over in November is not a late one. The great features of Melton Constable seem to be the solidity of its flesh and the smallness of its seeds. These are material merits. *A. D.*

SOUVENIR DE LA MALMAISON CARNATIONS.—With reference to the remedies recommended against the Carnation "rust" (*Helminthosporium echinulatum*), by Mr. Mayne in the weekly *Calendar* for November 21, p. 353, I think growers of large numbers of plants, or their employers, would not care to walk through, say, a couple of houses or more and find the plants disfigured by the use of sulphur or powdered lime, as advised. I do not wish to criticise the work of our practical friend, but on reconsideration, doubtless he will agree that there are remedies preferable to those in question. As a preventative, I strongly advise a free use of Richards' XL-All Vaporiser at least fortnightly, and spraying once or twice during the growing season with the "Carvita" preparation, as advertised. Methylated spirits, too, I have applied with a small stiff brush to the affected parts with satisfactory results. This season has been a most trying one, and has called for an unusual amount of attention and forethought. In order to have good plants for next season, much depends on their welfare during the next few months. Damp is, speaking generally, far more injurious to these plants than actual cold, therefore a little heat may be turned on occasionally to dispel any excessive moisture from the atmosphere. Take care on all foggy or damp mornings to have the moisture removed from the glass roof and sashes by the use of a mop or sponge. Plants growing in 9-inch pots should have their shoots carefully secured to straight sticks, painted green, and now that the days are so short, the plants should be placed as near to the glass as possible; and above all avoid overcrowding them. They require to be kept dwarf, with the side-growths sturdy. Never afford water unless the plant requires it, and then not by dribblets, but by complete saturation. Always use rain-water if possible. Every Carnation-house should contain portable staging, which can be raised or lowered as the plants may require. During mild and genial weather, ventilate the houses freely, at the top and front or sides, and allow a free circulation of air at night. In the event of frost a little heat may be turned

on, at the same time maintaining a temperature from 40° to 45°. If the foregoing remarks are carefully followed, and provided the plants have been taken from a clean and healthy stock, I feel certain we shall hear less of this troublesome disease. Every Carnation grower fully understands there are parts of the country where the rust is very troublesome, but it is chiefly in low-lying, damp, and foggy localities. Much, however, may often be done to check its ravages by carefully avoiding extremes of temperature and a stuffy atmosphere. *H. Humphrey, Kyson, Woodbridge.*

ROYAL HORTICULTURAL SOCIETY'S TRIALS.—It was with feelings the reverse of pleasurable that the Fruit and Vegetable Committee learned the other day at the Drill Hall that there would be no "trials" next year either at Chiswick or at Wisley. This is probably the first time ever since trials of diverse garden products were instituted at Chiswick that they have been allowed to lapse, and thus present a break in the excellent work conducted under the eyes of the Fruit and Floral Committees which cannot be contemplated without grave apprehension. *A. D.*

POTATO TRIALS.—With reference to "Scotia's" notes (p. 376) on the results of Mr. A. S. R. Learmonth's experiments, although I have read them several times, I am greatly puzzled. According to the figures given, sixty whole sets of each variety were grown on twenty running yards, with the astounding result that from 9 to over 13 tons of each variety named were obtained—i.e., several cwt. per set. Assuming that the crop per acre has been calculated from that raised on the comparatively small area described, which does not, however, appear at all from the wording, this yield, considering that specially good results are implied, clashes with the accompanying statement that "Mr. Learmonth's crops always run from 10 to 16 tons per acre according to the variety." This would imply that the results of the trials were below the average. As the value of such statistics depends entirely upon their clearness, I trust I may be pardoned for pointing out the above. *C. T. D.*

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

NOVEMBER 24.—Present: Dr. M. T. Masters, F.R.S. (in the Chair); Messrs. Odell, Baker, Saunders, Chittenden, Worsdell, Holmes, Massee, Douglas, and Nicholson; Dr. C. M. Cooke, Prof. Boulger, Rev. G. Henslow (Hon. Sec.).

Scientific Investigations at Wisley.—Prof. BOULGER remarked that it would be a comparatively inexpensive procedure to erect a Pine-wood building on a brick foundation for laboratory, store-room, &c., probably not exceeding £200 in cost. The equipment might be estimated to cost another £100, and the annual outlay, including remuneration to the Director, say £350. It was proposed to add these as suggestions to the memorial to be sent to the Council.

Canker in Apple-trees.—Badly diseased twigs were received from the neighbourhood of Salisbury. They proved to be attacked by *Nectria ditissima*. The only remedy suggested by Mr. Massee was to prune off all small wood and burn it, as well as to cut out diseased parts of boughs, and tar the places.

Pear Shoots Diseased.—Specimen of diseased shoots was received from the Priory, Eynsford, Kent, from Mr. Ed. Till. Mr. MASSEE suggested the following procedure: "The twigs are attacked by a fungus called *Fusicladium pirinum*. All diseased twigs should be pruned, and, along with fallen leaves and fruit lying under the tree, collected and burned. It would be an advantage to spray the tree with Bordeaux-mixture next spring, just after the leaf-buds have expanded."

Experiments for commercial purposes.—Mr. F. BAKER reported some results of his experiments and observations on leguminous plants. For the last five years a few varieties of garden Peas, field Peas, Runner Beans, Vetches, Sanfoin, and other plants of the same natural order, have been grown on good and on poor soil respectively, parts of each plot being specially well tilled, parts dunged, and parts treated with phosphatic and potassic fertilisers. Strips were arranged so that some spots should be well tilled, and also have a dressing of all the fertilisers, and other

spots to vary from nearly the same treatment to the poorest field culture. Results have shown that garden Peas and Beans cannot be profitably grown in very poor soil, manured solely by mineral fertilisers; but these respond well to tillage, dung, and then the minerals. On the other hand, Vetches, field Peas, Sanfoin, and others of the older plants grown on the farm can be most profitably grown on poor soil, manured solely with minerals. Dung will largely increase the yield of stem and leaf in all, but does not materially increase the yield of seed. If, therefore, seed be required, grow on poor chalky soil without dung; but if fodder is required, dung may be profitably used as well as minerals. The experiments also show the great use of the Vetch in ameliorating the soil, greatly enriching it, and, at the same time, cleaning it very economically. It is suggested that garden plants having been for many generations forced to an unnatural extent, are not able to adapt themselves to different conditions of soil, &c.; whereas field crops, which have had to seek for food to a large extent, are able to develop specially well-formed roots, which easily absorb water and such phosphatic, potassic, and other mineral plant-foods as are available, and on these roots are developed large numbers of nodules, by means of which an ample supply of atmospheric nitrogen is assimilated.

CHELMSFORD AND DISTRICT CHRYSANTHEMUM.

NOVEMBER 10, 11.—The first attempt at a two days show was held in the Corn Exchange, and proved very successful. Notwithstanding the adverse season, there was a distinct improvement in most of the Chrysanthemum classes, excepting those for incurved varieties. Fruit was much below the average, excepting Grapes.

Groups of Chrysanthemums were excellent. Mr. Rixon, gr. to Captain CRICKSHANK, Springfield, Lyons, Chelmsford, worthily won the Mayor's Cup with fine, fresh blooms and foliage; and was closely pressed by Mr. T. Brazier, gr. to Mrs. W. GRAY, Phoenix House, the winner last year, and Mr. Symonds, gr. to C. E. RIDLEY, Esq., The Elms.

Mr. E. SEARLE was easily 1st in a smaller group class with capital blooms; and Mr. Elcock, gr. to Col. TURNEL TYRELL, Boreham House, 2nd.

The Amateurs' groups were excellent. Mr. W. REED, Roman Road, was deservedly awarded the Crickshank Cup with a creditable display; Messrs. C. W. WOODWARD (last year's winner) and W. E. BELCHER, both of Mildmay Road, were good 2nd and 3rd respectively.

Mr. S. Pragnell, gr. to H. C. WELLS, Esq., D.L., Broomfield Lodge, staged a very large non-competitive bank of Chrysanthemums right across the Hall in front of the band-stand, set up in a serpentine line and finished with two half-circular mounds at the sides, the whole being faced with *Codiaeums*, *Dracaenas*, *Orchids* and *Ferns*, and backed up with *Palms* and other foliage plants. This exhibit was much admired.

CUT BLOOMS—OPEN CLASSES.

Twenty-four Japanese.—Mr. C. J. SIMPSON, of St. John's Nurseries, was 1st with an exhibit in which every flower was perfect. This stand was also awarded the National Chrysanthemum Society's Certificate as being the best in the show, and a monster *F. S. Vallis* 14 inches across was adjudged the premier Japanese bloom. Mr. RIXON was 2nd.

For the best twenty-four Japanese blooms, distinct, Mr. SIMPSON again led, his varieties being almost duplicates of the preceding; Mr. Watmore, gr. to E. BRISTOWE, Esq., Baddow Park, was 2nd.

Mr. BRAZIER was 1st for twelve incurveds, showing *C. Bruant*, *Pearl Palace*, *Hanwell Glory*, *Duchess of Fife*, &c. The same exhibitor was 1st for twelve Japanese and six varieties of *Pompons*.

Mr. SIMPSON was 1st in six varieties, singles; also in a good competition for six incurveds.

The Amateurs staged well throughout. Forty-two-four Japanese Messrs. REED, FALCONER and Mr. E. P. LEECH were respectively 1st, 2nd and 3rd; and for twelve incurveds Mr. REED was 1st with good blooms. C. H. CURTIS in this exhibit was selected as the best incurved in the show, and beating the blooms shown by the professionals.

Mr. C. E. RIPPON had much the best twelve Japanese in grand blooms of popular varieties. This stand was awarded the National Chrysanthemum Society's Certificate as being the best amateur's stand. Messrs. FALCONER and LEECH were respectively 2nd and 3rd.

The competition for blooms in vases was spirited, and Messrs. SIMPSON, SYMONDS, and RIXON were the successful competitors among professional gardeners; and Messrs. REED, RIPPON, GALLON, FALCONER, and WISEMAN amongst amateurs.

Begonia Gloire de Lorraine was grandly shown by Messrs. ELCOCK, BRAZIER, and RIXON; Messrs. SEARLE, TUNBRIDGE, and SYMONDS scored for collections of fruit and Grapes; and Messrs. SITCH, SEARLE, FALCONER, J. TUNBRIDGE, LOCKYER, LYNN, and REEVE for vegetables.

A long table was devoted to the ladies for exhibiting specimens of the florist's art in variety.

CROYDON AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT.

NOVEMBER 17.—The subject of the lecture at the last meeting, at their rooms, Sunflower Temperance Hotel, George Street, was "How Plants Grow," the lecturer being Mr. H. C. Etherington, manager at Mr. J. B. Box's, West Wickham Nurseries. His lecture was illustrated by drawings showing the many parts forming a plant, and with these illustrations he was enabled to explain the functions each component part fulfilled. A discussion followed the lecture, and to all questions asked the lecturer gave explicit replies.

WEST HARTLEPOOL CHRYSANTHEMUM.

NOVEMBER 17, 18.—The annual show was held successfully in the Town Hall. In the classes for cut blooms the leading awards went to Mr. J. Smith, gr. to W. MACLEAN, Esq., Grantully, West Hartlepool, for a group of Chrysanthemums; twenty-four incurved, and for twelve Japanese blooms and the same number of incurveds in competition for a Challenge Cup; in all classes he staged neat, well finished examples of popular varieties. Other winners of 1st prizes were Mr. A. Waller, gr. to J. Hill, Esq., Brockley, for twenty-four Japanese; and Mr. Findlay, gr. to W. DORMAN, Esq., Grey Towers Nunthorpe, who secured the leading vase class with capital blooms.

An interesting feature here were the decorative varieties in sprays of six in a vase. Mr. W. NICHOLSON, 31, Thornhill Gardens, West Hartlepool, was 1st; also he won the "Emmerson" Cup offered for twelve varieties contributed by amateurs.

Chrysanthemum groups were numerous and good, the best coming from Mr. J. SMITH and Mr. W. MOSSMAN, West Hartlepool.

DUMFRIESSHIRE AND GALLOWAY CHRYSANTHEMUM.

NOVEMBER 18.—No Chrysanthemum show having been held in the district for sixteen years, that held in the Drill Hall, Dumfries, on the above date, under the management of the Dumfriesshire and Galloway Horticultural Association evoked much interest in the district.

One of the leading classes was that for a group of plants (Chrysanthemums to be the leading feature), 24 feet by 12 feet. The 1st prize in this was well won by Messrs. JAMES SERVICE & SONS, Maxwelltown, Dumfries, with a notable group of Chrysanthemums of fine quality, having large blooms, and foliage plants. Mr. John Houston, gr. to the CREDITON ROYAL INSTITUTION, Dumfries, made a good 2nd.

The best exhibit in the other Chrysanthemum plant classes was a grand Vivand Morel from Mr. Jas. Henderson, gr. to J. D. MINTO, Esq., Elmbank, Dumfries, a number of other prizes also falling to him.

In the cut bloom classes, Messrs. SERVICE carried off the honours in the various open classes with blooms of high quality.

The cut blooms in the gardeners' classes were generally very fine. Mr. J. Duff, gr. to Colonel GORDON, Threave, Castle Douglas, was 1st for eighteen and also for twelve Japanese. Mr. J. Hardcastle, gr. to L. C. SALKELD, Esq., Holm Hill, Dalston, Carlisle, had the greatest number of points in the gardeners' cut bloom classes, thus winning the Silver-gilt Medal offered by Mr. H. J. Jones; Mr. J. HENDERSON also showed well in these classes.

In the miscellaneous classes the strongest competition was in that for six table plants, where the lead was taken by Mr. J. M. Stewart, gr. to J. NELSON, Esq., Mollance, Castle Douglas. Mr. STEWART, Mr. HOUSTON, Mr. DUFF, and Mr. HARDCASTLE were among the leading exhibitors in the vegetable and fruit classes.

Local nurserymen added much to the show by their exhibits. S. A.

YORK CHRYSANTHEMUM.

NOVEMBER 18, 19 20.—The annual show was held in the Exhibition Building, and was such a success as to render it quite one of the best of autumn displays. As an all-round show York has few equals; not only are groups of Chrysanthemums admirable, but the miscellaneous groups, such as the pillar and mirror decorations, are unique. Cut blooms receive much encouragement; many valuable prizes are offered, therefore they are found in goodly numbers and of excellent quality. Decorative varieties suitable for vases, baskets, bouquets, &c., were capitally shown. Fruit and vegetables compared favourably with such exhibits at most shows. The management was all that could be desired under the experienced direction of Mr. Omar, the courteous Secretary, and an efficient Committee.

CUT BLOOMS

were numerous and good. The principal class was that for thirty-six, half incurved and the remainder Japanese, not fewer than twelve varieties in each section, and for which the "Citizens" Challenge Prize, value £10, was added to the cash prize of £10. Four

competed. Mr. Higgs, gr. to J. B. HANKEY, Esq., Fetcham Park, Leatherhead, won the 1st prize with very fine examples of incurved and fairly heavy Japanese; Mr. G. Folkard, gr. to Lady WALKER, Sand Hutton, was a good 2nd, with fine Japanese, and smaller incurveds; Mr. MEASE, 3rd.

Mr. HIGGS was 1st for eighteen incurveds with a stand of heavy fresh blooms; Mr. MEASE was 2nd.

For twelve incurveds, Mr. McPherson, gr. to Lord LONDESBOROUGH, Londesborough Park, Market Weighton, was 1st with shapely blooms of popular varieties; 2nd, Mr. G. E. Thomas, gr. to the Marquis of RIPON, K.G., Studley Royal, Ripon.

Japanese blooms.—Mr. MCPHERSON won for eighteen distinct varieties with heavy, well-coloured blossoms of M. Chenon de Leche, Mrs. Greenfield, Bessie Godfrey, Mrs. J. C. Neville, Nellie Pockett, and Madame P. Radaelli, amongst five competitors; Mr. D. Williams, gr. to Lord FEVERSHAM, Duncombe Park, Helmsley, was 2nd. Mr. MCPHERSON also won for twelve Japanese blooms.

For twelve decorative varieties in sprays of three each there is always brisk competition and good results. Messrs. MEAKSTONE & SON, Hull Road, York, won with capital vases of Lizzie Adcock, Soleil d'Octobre, Ernest Fierens, La Triomphante, Eynsford White, Caprice du Printemps, and Mytchett Beauty as the best; Messrs. G. LONGSTER & SON, Beverley Nursery, Malton, were 2nd.

Single flowered varieties were staged in the same manner, and showed well their value for use in decoration.

Baskets of Chrysanthemums were grandly shown. Mr. J. YATES, 51, Penleys, Grove Street, York, won with a charming combination of large and small blooms neatly arranged; Mr. J. HOLMES, Clifton, York, was 2nd with a grand mass of Source d'Or.

PLANTS.

In the class for groups of Chrysanthemums and foliage plants combined, the display was fairly good; Mr. W. Townsend, gr. to E. B. FABER, Esq., Harrogate was 1st; and Mr. G. Jarvis, gr. to Mrs. WHITTAKER, Cliffe House, Hesse, 2nd.

The decorated mirror groups were more satisfactory, Messrs. T. SIMPSON & SONS, Brook Street, Selby, with capital material lightly disposed, won the premier place; Mr. G. COTTAM, Alma Garden, Cottingham, 2nd.

For a decorated pillar, 17 feet high, with a base of 8 feet by 6 feet, Messrs. SIMPSON were again the most successful.

Chrysanthemums arranged in a group of 80 sq. feet, made a bold display, especially as the plants were dwarf, well clothed with foliage, and carried good blooms. Mr. J. PETTINGER, Franklin Square Nurseries, Harrogate, was 1st; Mr. J. W. FIELDS, Front Street, Accomb, York, 2nd.

Mr. Everard, gr. to Mrs. GUTCH, Holgate Lodge, York, was the most successful prize-taker in the classes for specimen Chrysanthemum plants, showing, as he usually does, well-grown and freely-flowered plants.

NON-COMPETITIVE EXHIBITS.

Messrs. CUTBUSH & SON, Highgate Nurseries, London, were awarded a Gold Medal for an exhibit mainly consisting of retarded plants in full bloom.

Messrs. W. CLIBRAN & SON, Altrincham, Cheshire, had Celosias and single-flowered Chrysanthemums.

ABERDEEN CHRYSANTHEMUM.

NOVEMBER 20, 21.—The annual exhibition was held on the above dates in the Music Hall Buildings, Aberdeen. The display was one of great excellence, especially when one takes into account the weather experienced during the season. Numerically the exhibition was in advance of that of last year, the entries numbering over 700. On account of this large entry, not only the large Music Hall itself, but also the Ball-room, had to be utilised to accommodate the display. Of Chrysanthemums alone there were 500 plants in pots and over 1,000 blooms, besides the fruit, vegetables and other exhibits. The arrangements were carried out by a Committee and Mr. Magnus H. Sinclair, the indefatigable Secretary.

The special prizes were awarded as follows:—President's Challenge Cup for best thirty-six Japanese Chrysanthemum blooms, Mr. W. PATERSON, gr., Balmedie, Aberdeen; Seed and Nursery Trade Challenge Cup for best group of Chrysanthemum plants, Mr. JOHN PROCTOR, gr., Devanha House, Aberdeen; the Ladies' Challenge Cup for best eighteen Japanese Chrysanthemum blooms (amateurs only), Mr. J. JENKINS, 421, Clifton Road, Aberdeen; Silver Cup for best twenty-four Japanese blooms, Mr. W. PATERSON, gr., Balmedie; best six Chrysanthemum plants, distinct varieties, Mr. A. ARCHIBALD, Dunalistair; best three Chrysanthemum plants, distinct, Mr. A. DUNCAN, 15, Albyn Place; best ditto, in pots, Mr. A. MURRAY, Ashley House; best eighteen Japanese Chrysanthemum blooms, Mr. E. GOSS, Sunnyside; best twelve incurved Chrysanthemum blooms, Mr. E. JAMIESON, gr., Burton Hall, Loughborough; best six incurved Chrysanthemum blooms, Mr. W. PATERSON, Balmedie; best three vases, distinct varieties, Chrysanthemums, Mr. JOHN PINE, gr., Strichen, Mintlaw; best twelve bunches not disbudded

Chrysanthemums, Mr. J. SMITH, Grantown-on-Spey; best twenty-four trusses Christmas Roses, Mr. WILLIAM SCORRIE, Springhill; best épergne, arranged for effect with Chrysanthemum blooms, Messrs. KNOWLES & SONS, Aberdeen.

Considerable attention was paid by the many visitors to the exhibits that won the special prizes. Mr. TOUGH, Great Western Road, Aberdeen, an amateur, did himself great credit in carrying off the special prize for the largest bloom in the show; it was one of Lord Ludlow, brought out by Messrs. Wells, Redhill, Surrey. This firm's Silver Medal in the professional class went to Mr. WILLIAM MOIR, Rosehaugh, Ross-shire, for the best bloom introduced by Messrs. Wells. Mr. MOIR's exhibit was a magnificent bloom of Mafeking Hero. Much admiration was also expressed for the finest incurved bloom in the show; it was in the group of the best six of that class which secured the 1st prize, the winner being Mr. W. PATERSON, Balmedie, with James Agate.

There was a good display of fruit and vegetables, there being in the former section an interesting collection of Apples from Nova Scotia, sent by the Nova Scotian Government from the exhibition in the Crystal Palace, London.

In addition to the entries in the various competitions, there were several very interesting exhibits from Messrs. BEN. REID & CO., Aberdeen; Messrs. W. SMITH & SON, Aberdeen; Mr. ALEXANDER BURNS, jun., New Market, Aberdeen; Messrs. WILLIAM THOMSON & SONS, Ltd., Tweed Vineyards, Cloverfords, Galashiels, and others.

READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

NOVEMBER 25.—The usual fortnightly meeting was held on the foregoing date, the President, Mr. Leonard Sutton, presiding over a good attendance of members. The subject for the evening was "The Seeding of Chrysanthemums in England," and was introduced by Mr. Pole Routh, Oakfield, Reading. The paper proved to be a very interesting one, and a good discussion followed.

The exhibits consisted of a group of seedling Chrysanthemums, several of the plants carrying large blooms, by Mr. POLE-ROUTH; seedling Chrysanthemum plants, by the PRESIDENT; cut blooms of Chrysanthemums (twenty-four vases), raised from seed sown in January, 1903, by Messrs. SUTTON & SONS; two specimen plants of Daphne indica growing on their own roots, and a vase of Ranunculus, by Mr. HARRIS, gr., Mapledurham House. For the Certificate, twenty-four table plants were shown by Mr. WYNN, gr., "Samoa," Reading. The plants were well grown, and the Certificate was awarded the exhibitor.

THE NATIONAL DAHLIA.

DECEMBER 1.—An adjourned meeting of the Committee of this body was held at the Horticultural Club, on the above date, E. Mawley, Esq. (in the chair); also present Messrs. Wilkins, Treasurer, P. M. Tulloch, Secretary, and ten others. The chief business to determine was the place for holding the exhibition next year; the choice lying between the new Horticultural Hall, Westminster, and the Crystal Palace.

The Royal Horticultural Society's conditions required that they take all the gate money for the two days the show was open, that all admission be 2s. 6d., instead of 1s., as before, and that all Fellows of the Society be eligible to compete for the National Dahlia Society's prizes, the money grant being the same as last year. To these conditions great objection was raised. The offer of the Crystal Palace Company was much more liberal, and although the Company takes all gate money, it keeps the admission at the modest charge of 1s. The Committee declared that the charge of 2s. 6d. was a prohibitive one to Dahlia-patrons. At the Horticultural Hall there would be no other attractions, whilst both at the Crystal Palace and at Earl's Court, where also the inclusive charge was 1s., there were many other attractions. It was ultimately agreed to accept the Crystal Palace offer, and hold the show there early in September next.

Discussion as to the sizes of show-boxes followed, and it was agreed to incorporate the dimensions agreed to in the next year's schedule. It was also resolved to recommend a revision of the bye-laws, so that all subscribers of one guinea annually shall be classed as Fellows, and all paying lesser sums as Members. It was agreed that the annual meeting be held on Tuesday the 15th inst.

CROYDON HORTICULTURAL.

The annual meeting of members of this Society was held recently, when the thirty-sixth Annual Report was adopted. Great satisfaction was expressed in regard to the character of the exhibition on July 18 last in the grounds of, Addiscombe Court; but the expenses having been rather heavier than usual, owing to holding a larger show, there has been a deficit on the year's working. The Society, however, has still a small balance, and its credit is good. Mr. Rodley is an energetic Secretary.

CHESTER PAXTON.

Nov. 11, 12.—Groups are an attraction at Chester, the single-flowered Chrysanthemums being even more attractive than the large-flowered varieties. Major MACGILLICUDDY, the winner of last year's Cup, had to give way to Dr. LAWRENCE, of the County Asylum, Upton, and in the large flowering group to T. G. FROST (gr., J. Gilbert). Major MACGILLICUDDY, however, was successful in the plant classes, winning with six Japanese and six singles.

The cut blooms throughout were of much merit, the chief class for eighteen Japanese falling to Mr. C. THRELFALL (gr., T. Herbert), the varieties W. R. Church, Mrs. Barkley, and Nellie Pockett showing to advantage; 2nd, Mr. G. BARBOUR.

Handsome Grapes and magnificent indoor and outdoor grown Apples and Pears, the whole relieved by the addition of single Chrysanthemums, formed the splendid contribution from His Grace the Duke of WESTMINSTER, Eaton Hall (gr., N. F. Barnes) (Gold Medal).

Messrs. DICKSON, Ltd., Chester, showed fruit and flowers, and Messrs. MCHATTIE, plants and fruit.

An interesting collection of Colonial fruit, consisting of Bananas, Grape Fruit, Oranges, Apples, &c., was sent by Sir ALFRED L. JONES.

MANCHESTER.

NOVEMBER 19, 20, 21.—The annual show was held in the Botanical Gardens. There was on view a good display of 140 Chrysanthemum plants in bloom, grown in the Society's gardens.

The groups in separate colours almost filled the spacious annexe, other features including a display of Conifers from Messrs J. WATERER & Co., Ltd., Bagshot; and single, incurved, and Japanese Chrysanthemums, Celosias, and Cyclamens from Messrs. W. CLIBRAN & SON, Altrincham.

The competitive cut blooms were staged in the exhibition house. The large class for twenty-four Japanese and twenty-four incurveds, brought only one competitor, viz., Mrs. HAYWOOD, Woodhatch Lodge, Reigate (gr., C. J. Salter), who was awarded 2nd prize.

Mrs. HAYWOOD, was a capital 1st for thirty-six miscellaneous blooms; and Mr. F. H. GOSSAGE, Camp Hill, Woolton (gr., J. Stoney), was a very good 2nd.

The class for thirty-six cut blooms of Japanese varieties was a splendid one, Mr. ARTHUR JAMES, Cotton House, Rugby (gr. G. Chandler), winning 1st prize; 2nd, The Dowager Lady ASHBURTON, Meichet Court, Romsey.

Mr. JAMES again won 1st prize in the class for twenty-four incurveds.

The class for six vases of Chrysanthemums, six blooms in each, was won by Mr. G. H. GADDUM, Didsbury (gr., T. Willacy).

TRADE EXHIBITS.

Mr. JOHN ROBSON, Bowdon (Silver Medal); and Mr. GEORGE BOYES, Leicester (Silver Medal), had winter-flowering Carnations.

Messrs. W. WELLS & Co., Earlswood, Surrey, had Chrysanthemums (Gold Medal).

Messrs. W. CALDWELL & SONS, Knutsford, miscellaneous plants; Messrs. J. WATERER & SONS, Ltd., Conifers (Gold Medal). Mr. Weathers gave prompt and courteous attention to all.

ENQUIRY.

NEW POTATOS AT CHRISTMAS.—Mr. W. H. Yates, gr., Rotherfield Park, Alton, would be much obliged if Mr. Fogden would kindly inform him if he puts the Potatos into the boxes at the time of digging in a dry state; also whether any sand or soil of any description is put into the boxes with the tubers?

ANSWERS TO CORRESPONDENTS.

ADDRESS: R. B. Mr. H. J. Jones carries on business at Hither Green, Lewisham.

BEECH, OAK, ELM, LIME, AND CHESTNUT-TREES IN AN AVENUE: Novice.—It is not well to plant these different kinds of forest-trees as a mixture in an avenue; better select one, or at the most two; for, as a mixture, the trees would not, owing to differences of contour, rate and habit of growth, and seasons at which the leaves are cast, present the uniform appearance admired in an avenue. Avenue trees may be planted at 15 feet apart, and thinned when they touch to 30 feet, or they may be planted at 30 to 40 feet, at which distance they would remain. Trees in an avenue grow quicker if a few rows of nurse-trees are planted on either side of them, cutting these away when they grow together, and before much impoverishment of the land has taken place. These may consist of Pines, Larch, Poplars, Willows, Sycamores, &c.; and common shrubs, as Broom, Furze, Privet, Alder, may be planted among them to act as wind-breaks.

BEGONIA-LEAVES: Lex. The disfigurement is caused by mites (Tarsonymus). The remedy is to syringe the plants with Tobacco-water, or dip them in the liquid when not in flower. An

alternative would be to dust the leaves with Tobacco-powder.

BOOKS: F. J. G. *The Manuring of Market Garden Crops*, by Dr. Bernard Dyer and Mr. Shrivell, is a reprint from the *Journal of the Royal Horticultural Society*, and is published by Vinton & Co. See review of same on p. 158 of the *Gardeners' Chronicle* for August 29.

BLACK CURRANT: P. A. The swollen condition of the buds is caused by the "Black Currant bud mite" (*Phytoptus ribis*), figured and described in the *Gardeners' Chronicle*, August 7, 1869. You are extremely fortunate in never having seen such a condition before, as most growers have suffered severe loss from the pest for many years. But this being so, we assume your bushes have been clean until the present season. Your best policy now will be to dig up and burn every bush that is badly infested, and upon others cut away every shoot that contains a swollen bud. Burn both bushes and shoots. See note in Calendar, on p. 387.

CHRYSANTHEMUM LADY SELBORNE: *An Interested Reader*. The variety Lady Selborne (white) was a sport from the variety James Salter (lilac). The white variety then sported yellow, and was called Yellow Selborne, making three varieties in all. Two other varieties have more recently been distributed as Pink Selborne and Red Selborne, but these are seedlings and have very little in common with the variety Lady Selborne.

CORRECTION IN "ORCHID CALENDAR" FOR NOVEMBER 28. A mistake was, we regret to say, inadvertently made by us in stating that cut blooms of *Lælio-Cattleyas* and *Cattleyas* endure for three weeks afterwards. Uncut flowers will endure for that length of time.

DONATION: H. Juniper. The amount sent in postage stamps will be paid over to the Treasurer of the *Gardeners' Royal Benevolent Institution* as desired.

DAHLIA ROOTS KEPT IN A DRY ROOM: R. B. The roots keep best in a ground-floor room, by preference one with an earthen or stone or tile floor, and in which no artificial heat is employed. If a room is very dry cover the roots with dry loam or coal-ashes.

FIFTY VARIETIES OF CHRYSANTHEMUMS: E. H. C. We have not the time or space to write out a list such as you require. Consult a good trade list or an amateur or professional grower.

FLOWER POTS: F. J. G. The diameter is measured by potters and dealers from inside the rim on one side to the outside of the same at the opposite side of the pot.

FREEZING POINT: *Constant Reader*. On the Fahrenheit scale, when the mercury in the tube falls to 32° the temperature has got to the freezing-point. If it should descend in the least below the line indicating the 32nd degree it is a trifle colder.

GARDENER'S NOTICE TO QUIT: *A Constant Reader*. In the absence of a written agreement the employment is assumed as for one year, a gardener being at law a domestic, and as such entitled to six months' notice, although in custom this is shortened to one or three months. If you are compelled to leave at an earlier date you have your remedy at the County Court.

GRAPES SHRIVELLING: T. H. H. There is nothing in the berries themselves to account for the shrivelling. By some means, which cannot be determined here, the Vine has suffered a severe check, and the ripening process has been arrested owing to the berries being deprived of their nourishment. Their appearance is the same as it would have been had the Vine been pulled from the border, and the bunches of fruit left hanging upon it.

LEAF-MINER: D. C. We fear there is nothing to be done but to pick off the leaves and burn them. The plants might be sprayed with quassia-extract to prevent the deposit of the eggs.

MUSHROOM BEDS: C. F. C. It is impossible to determine such fragments in such a condition as those sent. If you send better specimens suitably packed, we will endeavour to identify them.

NAMES OF FRUITS: A. H. F. Cox's Pomona.—W. B. Hartland. Catshead.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*Constant Reader*. 1, *Pernettya mucronata*; 2, not recognised, wretched specimens.—W. S. C. P. (from last week). 1, *Alkanna orientalis*; 2, *Anchusa officinalis* (purple).—J. H. N. B. 1, *Epidendrum fragrans*; 2, *Davallia Nova Zelandiae*, so far as we can judge by the specimen sent; 3, *Cyrtomium falcatum*; 4, *Asplenium biforme*; 5, *Pteris cretica albo-lineata*; 6, *P. argyræa*.—E. N. *Sequoia sempervirens*, Red-wood-tree.—J. W. *Clematis cirrosa*.—W. R. 1, *Arbutus hybrida*, but the specimen is a poor one.—J. B. *Thunbergia laurifolia*.—F. McD. 1, *Asplenium biforme*; 2, *Pteris serrulata cristata*; 3, *Pteris serrulata*; 4 and 5, *Pteris cretica cristata*, or a garden-raised form of it; 6, *Cyrtomium falcatum*.—J. O. 1, *Bulbophyllum Careyianum*; 2, *Oncidium candidum*, sometimes called *Palumbina candida*; 3, *Oncidium heteranthum*, the occasional abortive flowers are a good guide to identification; 4, *Odontoglossum constrictum*; 5, *Odontoglossum ramosissimum*.—X. S. P., Glasgow. 1, *Ruellia Portellæ*; 2, *Pteris Ouviradii*, a garden-raised plant intermediate between *P. serrulata* and *P. umbrosa*; 3, *Eranthemum leuconeum*, a Brazilian species which often comes up in imported Orchids; 4, *Cyrtomium caryotideum*; 5, *Bambusa Fortunei variegata*; 6, next week.—A. H. F. *Begonia manicata*.—W. T. 1, *Brassia maculata*; 2, *Ada aurantiaca*; 3, *Oncidium prætextum*; 4, *Vanda Kimballiana*.—Vitis. 1, *Bulbophyllum triste*; 2, *Catasetum maculatum*.

NESTING AND HATCHING-OUT OF LINNETS: F. W. C., Poles, Ware. That these birds were hatched on November 5, and lived till killed by the frost on Sunday the 15th, is indeed so remarkable an occurrence as to deserve a record in our pages.

PEACH-ROOTS IN AN INSIDE BORDER DYING: G. H. H. The appearances indicate a condition of the border consistent with defective drainage and waterlogging, and want of aëration. Whatever may be the condition of the border, we should hesitate to use a "solution" made from lime taken from an acetylene gasometer. Examine the condition of the soil, especially of the drainage. Probably replanting may be found necessary.

PROPAGATION OF POTATOS: J. B., Elgin. The article to which you refer was published in the *Gardeners' Chronicle* for September 4, and explains the methods of quick propagation that are common, such as cutting the tubers up into single "eyes," sprouting the tubers and taking away each "sprout" when nearly 2 inches long, and by cuttings taken from plants raised in the earliest days of spring. These cuttings will make roots just as do cuttings of *Pelargoniums*.

RIPE PEACHES AND NECTARINES AT CHRISTMAS: *Daphne*. It might be possible with retarded potted trees, but we should doubt the possibility of imparting a passably good flavour to such fruits.

VIOLETS: J. L. The disfigurement is caused by *Æcidium depauperans*, which may be destroyed by washing or syringing the plants with the Bordeaux-mixture or other insecticide.

WEAK LIQUID-MANURE AFFORDED TO FORCED LILY OF THE VALLEY: W. D. It would do but little, if any good, and the manure, of the mildest nature, should be applied to the growing plants in the third year of growth.

COMMUNICATIONS RECEIVED.—S. W. F.—*The Earl Annesley*.—R. H.—E. J.—*Lenox*, Mass.—W. M.—M. F.—J. H. V.—J. M. (reserved for future publication).—C. T. D.—C. H. W.—A. D. H.—*Lord Keveston*.—W. G. S.—E. W. B., Berlin.—W. W.—*Subscriber* (no name), we thank you for your corrections.—*Vincenzo Ostinello*, Palermo.—W. Duckham, Onunda, Madison.—F. H. M.—*Subscriber*.—J. L.—E. Petzke.—E. M.—*Kelsey & Guild*.—S. A.—E. C.—J. S.—W. C.—C. T. D.—W. P.—*Miss Gallon*.—A. H.—A. F.—D. E.—J. T. A.—R. D.—H. N. R.—A. D. H.—J. J. M.—W. A. C.—H. A.—C. H. W.—A. H.—S. O. L.—J. C.—W. E. L.—J. D. & Sons.—J. D. G.—H. W.—W. P.—A. B.—*Caldwell & Sons*.—A. E. S.—R. W. R.—F. M. G.—*Em Duchesne*, Brussels.

(For Markets and Weather, see p. xii.)



VIEW OF ROCKERY AT KILLERTON, DEVONSHIRE, IN COURSE OF CONSTRUCTION, SHOWING TEA HOUSE
AND DISTANT VIEWS ACROSS THE PARK. *W. Barrett, Photographer.*



THE

Gardeners' Chronicle

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THE GARDEN IN WINTER.

NOTWITHSTANDING her frequent atmospheric disturbances, this is the period of Nature's repose. She is resting from her manifold beneficent activities; she has for a period ceased from her efforts in the generous creation of flowers and fruits; yet she is calmly preparing for the flowering and fruit-bearing seasons that are to come. Her beauty has largely vanished from the outward gaze. To realise what remains of her former loveliness, we require what Wordsworth has so beautifully described as

"The harvest of a quiet eye,

That sleeps and broods on his own heart"—

the need to be in perfect harmony with Nature, to draw inspiration, or even consolation, from this season of the year. The leaves, flushed with the hectic hues of decay, no longer make living and radiant the dark branches of the trees; our favourite flowers are gradually vanishing away; the heroic Campion, indeed, in the recesses of our woodlands, may still be seen; and, as Montgomery has so memorably sung, "the Daisy never dies;" but the prevailing aspect of Nature in December is significant of the conviction that her winter change

has come. Under such conditions, the few flowers that still adorn our gardens are all the more valued because they are so rare; our China Roses still make a valiant effort to blossom, and when they succeed—as they sometimes do even in dark December, when atmospheric moods are favourable—they are greatly prized. It is not uncommon in the early winter months to come upon an exquisitely-beautiful flower, unfolded unexpectedly by a fragrant hybrid Tea, of all Roses the most accommodating under trying conditions; not seldom have such varieties as Viscountess Folkestone and Madame Pernet Ducher rewarded me in this extremely graceful manner for previous attention to their cultural requirements, which in such instances are never too exacting; for, as a general rule, the plants which flower with the greatest facility are those which are least unreasonable in their demands. This is especially expressive of such grand Roses as Cheshunt Hybrid and Gloire de Dijon, which, while competent to decorate a palace, are often seen covering and adorning cottage walls, where they hardly ever receive any manurial assistance, but are in most cases left entirely to themselves. Nature seems to give them out of her own infinite treasures what they require; and man, with all his chemical resources and cultural capabilities (which he sometimes over-estimates) can do no more. We not seldom deal with our fairest floral treasures as the immortal Dr. Blimber, in *Dombey & Son*, wrought with that marvellous mental and physical development entitled Mr. Toots; we stimulate them too greatly, beyond the use of Nature, and force them too much. Then, exhausted by their weakening, abnormal summer activities, when winter comes, they die. They have been emasculated by hypertrophy; and the consequence is early and premature decay. I have several precious plants of the sweet-scented Violet, which, left entirely to themselves in shady recesses of my garden, and quite forgotten during the splendid reigns of the imperial Lily and the queenly Rose, invariably surprise and delight me with their miniature blossoms, so replete with richest fragrance at this season of the year.

Such flowers are a pure delight to the lover of Nature at this season; so also is the glory of that annual revelation, the Christmas Rose. At least two months previously to the sacred period associated with its deeply reverential name, it appears in this mild region to cheer us with its flowers. Its fairest contemporary is the naked-flowering Jasmine, steadfastly shining through all atmospheric tribulations on the garden-wall; its successor is the "Winter Heliotrope." The richly-odorous Tussilago fragrans, which, probably by reason of its spreading qualifications, is not so frequently cultivated in our gardens as those who, like myself, recognise its value would desire it to be. I have never been successful with Chimnanthus fragrans; under those circumstances this sweetly-scented Coltsfoot is an abiding consolation, bringing the fragrance of summer into the heart of that season which, notwithstanding the unseen activities of Nature, we are accustomed to regard as a period of desolation akin to that of death. David R. Williamson, Manse of Kirkmaiden, Wigtownshire, Scotland.

NEW OR NOTEWORTHY PLANTS.

CHEILANTHES UNDULATA, HOPE AND C. H. WRIGHT, SP. NOV.*

THIS species, first discovered in the province of Yunnan by Dr. A. Henry, is now growing at Kew, having been raised from material collected in the same region by Mr. E. H. Wilson. It belongs to the same group as Cheilanthes multifida, Swartz, and has for its nearest ally, C. patula, Baker. The latter differs in having a perfectly glabrous rhachis and more deeply divided pinnae. The fronds are 6 to 8 inches long on a stipes $1\frac{1}{2}$ to 3 inches long, they are of a pleasant dark green, softly pubescent, or almost pilose on both surfaces, and spread in such a manner as to make the lower pinnae lie horizontally; the chestnut-coloured rhachis is zigzag except when quite young, and clothed with thicker hairs. The slender wiry stipes are scarcely thicker than the rhachis, and are collected into dense tufts.

THE EFFECT OF A WET SEASON UPON THE MANURE IN THE SOIL.

THE interesting question of how far a wet season like the past will wash accumulations of manure out of the soil, which has been raised by Mr. A. Dean in his note on p. 375, can, to a certain extent, be cleared up from the work that has been done at Rothamsted. In any complete manure there are, of course, three constituents of service to the plant—nitrogen, phosphoric acid, and potash, and we can be pretty sure that the two latter suffer no appreciable loss by washing out of the soil, however excessive the rain may have been. Both phosphoric acid and potash are often applied in forms soluble in water—superphosphate, for example, owes much of its value to the solubility of its phosphoric acid—and all the potash manures contain that compound in a soluble form, even in farmyard manure a considerable proportion of both, and especially of the potash, are dissolved in the liquid portion; but when applied to any ordinary soil the compounds pass very quickly into a comparatively insoluble condition, and are retained quite close to the surface, being only slowly yielded up to the roots of the plant.

Under each of the Wheat plots at Rothamsted runs a tile drain, about 30 inches below the surface, and the drains are all led into a transverse trench, so that the water can be collected for analysis. To many of the plots as much as $3\frac{1}{2}$ cwt. of superphosphate and 200 lb. of sulphate of potash are applied annually, about twice as much as is removed in the crop. Yet very little of these substances ever appears in the drainage water, the highest figures show about 1.6 part per million of phosphoric acid, and 5.4 parts per million of potash in the drainage water, estimated at about 3 lb. and 12 lb. per acre per annum respectively.

Further evidence of the retention of phosphoric acid and potash is afforded by the analyses of the Wheat-field soils which have been made by Dr. B. Dyer from samples drawn in 1893, fifty years after the beginning of the experiments. The amount of phosphoric acid and potash supplied in the manures is known, and from repeated analyses of the crops obtained during the same

* *Cheilanthes undulata*, Hope and C. H. Wright; ad *C. patula*, Baker, accedit, differt rhachidibus pubescentibus et pinnis angustius divis. *Stipites* caespitiosi, 1½–3 poll. longi, atrocastanei, pubescentes vel nonnunquam fere pilosi. *Frondes* ad 8 poll. longae, infra bipinnatae, supra pinnatae; rhachis undulata, cetera stipitibus similis; pinnae deltoideae, simpliciter vel bi-pinnatipartitae, utrinque pilosae, lobis angustis oblongis obtusis, nervis obscuris. *Sori* subconfuentes; sporae subglobosae, leves, 40–45µ diam.

China: Yunnan, Yuanchang, 5600 ft., A. Henry, 19220. E. H. Wilson.

period a good estimate can be formed of the surplus manure constituents not removed by the crops. Of the excess of phosphoric acid thus supplied in the fifty years something like 80 per cent. remains in the top 9 inches of soil, the second and third 9 inches showing no particular gain; the potash has sunk deeper, some of the excess being found as low as 27 inches, but about one-half of it remains in the top 9 inches. If we also take into account the potash and phosphoric acid removed in the weeds which are dragged off the plots every year, we are justified in concluding that the losses of these mineral constituents by drainage are inappreciable.

Turning, however, to nitrogen, perhaps the most important element of a manure, the case is different, for here we have the possibility of great loss. A large number of compounds of nitrogen are employed as manure, but sooner or later they are acted upon by the bacteria of the soil and become converted into nitrates, the form in which nitrogen enters the plant. Now the nitrates are both soluble in water and are also not in any way retained by the soil, whereas all the other nitrogen compounds, even if readily soluble like sulphate of ammonia, are held by the surface-soil as tenaciously as the phosphates. Thus, if there is any washing through the soil when it contains nitrates, they will be lost in the drainage-water. At Rothamsted, for example, the Wheat-field drainage-waters often contain considerable quantities of nitrates but only a trace of ammonia, even when sulphate and muriate of ammonia have recently been applied as a manure. The action of the soil bacteria forming nitrates is much stimulated by warmth, aëration, and well working the soil; but as long as a crop occupies the land and is actively growing, the nitrates are rarely produced faster than they are wanted by the crop, and loss is not likely to take place. The loss takes place when the land is bare, after harvest. For example, if the land be broken up, the summer warmth it still retains together with the stirring and aëration promote a rapid production of nitrates, and if heavy rain falls they may be washed out of the land, to the detriment of the succeeding crop. The best example is perhaps afforded by a bare fallow. Under ordinary conditions the summer working of the land results in the formation of nitrates, which remain in the soil and feed the crop in the following year if the autumn and winter are fairly dry.

At Rothamsted two adjoining plots of land are fallowed and cropped with Wheat in alternate years, so as to ascertain the benefit of fallowing. If we divide the crops into two series, according to whether they follow an autumn of more or of less than average rainfall, we get the following results:—

	Rain-fall.	Per-cola-tion.	Wheat after fallow.	Wheat after Wheat.	Gain due to fallow.
16 seasons—percolation (Sept. to Dec.) above aver.	13.78	8.92	1,757	1,627	130
15 seasons—percolation (Sept. to Dec.) below aver.	8.94	8.99	2,677	1,807	870

Thus fallowing increases the succeeding crop by 50 per cent. if the autumn be dry, and practically does not increase it at all if there is a wet autumn to wash out the nitrates produced during the summer.

Applying, now, these general principles to a season like the past, we must first note that the conditions have been unfavourable to nitrate-production, for the land has been cold and often waterlogged, and cultivation has been restricted.

Notwithstanding these minimising factors the losses must have been considerable; if we may

judge by the evidence afforded by the Rothamsted drain-gauges. These are blocks of soil $\frac{1}{100}$ acre in extent, round which a cement wall has been built, with an arrangement below to catch all the rain which drains through the soil. Not only is the percolating water measured, but the quantity of nitrates which have been formed from the nitrogenous reserves in the soil are also determined. Taking the results yielded by the gauge in which the soil is 60 inches deep we get the following figures as compared with the mean:—

Month.	Rainfall, ins.		Percolation, ins.		Nitrogen in drainage water.	
	1903.	Aver.	1903	Aver.	1903 lbs.	Aver. lbs.
June ...	6.121	2.311	4.65	0.58	6.52	1.18
July ...	4.088	2.545	1.96	0.57	2.97	1.42
August ...	3.960	2.646	1.52	0.70	2.41	1.93
September ...	2.753	2.502	0.83	0.81	1.41	2.28
October ...	6.320	3.094	5.09	1.73	8.06	4.65
Total ...	23.240	13.099	14.10	4.39	21.37	11.46

These figures refer only to bare soil. Where the land is occupied by a crop the summer percolation and loss by drainage is reduced to a minimum, but in 1903 the summer rainfall caused great percolation even on cropped land; the drains under the Rothamsted Wheat-field, for example, ran repeatedly and heavily this summer, sixteen times between June and October as compared with an average of 3.5 times. Hence we may conclude the loss from ordinary land has been even greater than is indicated in the table above. The heavy growth of weeds, which has been another unpleasant characteristic of the season, also means manure withdrawn, and if the weeds are burnt, the nitrogen they contain is finally lost to the land.

Another factor of some importance is the deficient root-growth that always takes place when the land is saturated. We must expect that all summer and autumn-sown stuff has been making a very indifferent foundation for next season's growth. Taking Wheat as an illustration, we find that one of the great factors in bringing a big crop is a comparatively dry late autumn and winter, when the root-system is being built up. The following Table shows for three of the fully-manured plots at Rothamsted the average Wheat crop which succeeded the ten wettest and ten driest winters during the fifty years, 1853-1902:—

	Rainfall, 4 months—Nov.—Feb.	Grain—bushels.		
		Plot 6.	Plot 7.	Plot 8.
Wet winters ...	13.065	19.4	27.1	34.0
Dry winters ...	5.786	28.0	37.7	38.9

Some of these differences may be due to the washing out of nitrates, but as each of the plots receives the bulk of its nitrogenous manure in the spring, the main cause for the low crop following the wet winter must be looked for in the deficient root-growth.

On the whole, then, we must expect next spring to find the land somewhat impoverished, and the root system of plants that now occupy the ground weaker than usual. In garden soils rich with heavy and continuous manuring the loss of capital will have been trifling compared with the great reserves that remain; the deficiency will be in the active nitrates, which will not begin to be formed again in any quantity until the land warms up. It will be the early spring crops—Cabbages, Lettuce, early Peas and the like—which will most feel the effects of the past summer, and a timely application of a little ready-formed nitrate of soda may be more than usually necessary to induce early and rapid growth. A. D. H.

MARKET NOTES.

We get white Marguerites all the year through, but it is rarely I have seen prettier stuff than is now coming in. Several growers are bringing in neat, compact, well-flowered plants, perfectly free from the troublesome maggot, which often plays such havoc among these plants. Unfortunately, there seems little trade for them. At this season of the year they are not much favoured by the hawkers, who clear out such a lot of the surplus stock in the spring. *Erica hyemalis* is very plentiful and beautifully flowered; earlier in the autumn it was thought that, owing to the continued wet, dull weather, they would fail this season, but so far as I have seen at present they are as good as in the best seasons we have had. There are more on the market just now than there is trade for, and at the close of the market many remain on the stands. *E. gracilis*, which is equally good, is over-plentiful. Good Cyclamen are now coming in, and these clear out well, but growers say they cannot make the prices they did a few years ago; 10s. to 12s. per dozen is about the top price for good stuff in 48-size pots.

Begonias sell better than they did. I find Mrs. Leopold de Rothschild is now largely grown; the colour is not quite so good, but otherwise it is a better market plant than Gloire de Lorraine. Among Chrysanthemums in pots, Ivory is very good; I also noted the pink variety in neat small plants; W. Shrimpton, one of the best in crimson; Vivian Morel, very good; Soleil d'Octobre is still coming in good; Fleur d'Or and Phœbus are other useful yellows. Single Primulas, both white and red, are good, but these find few buyers at present. Solanums with well-ripened berries are plentiful, but do not find many buyers; and with Ferns and Palms trade continues very dull. It is not a question of price, there are few wanted just now, and trade is not good enough for buyers to speculate at the very lowest prices. I hear that trade is equally slow where country buyers take their supplies direct from the growers.

Among cut flowers the Chrysanthemums continue to come in in large quantities; there are still some from the open ground, but these now begin to look very rough. In the better quality blooms the supply is enormous, and some of the later varieties are now coming. Niveum is already in, but good blooms go at a very low price. Source d'Or is seen on every side, but it can hardly have proved a source of gold to growers this season. There may be a tendency for a slight improvement, and when the earlier sorts are quite cleared off there should be a much better trade for blooms cut from indoors. There is plenty of all sorts of choice cut bloom coming. White Azalea is sold for about 3s. per dozen bunches; white Camellias only 1s. 6d. per dozen; Callas and *Lilium longiflorum* are sold well if they make 2s. 6d. per dozen; Roman Hyacinth is very good; Roses must be very good to make anything like a fair price; some good samples of C. Mermet, Perle des Jardins, The Bride, and Sunrise, from 2s. to 2s. 6d. per dozen. Very large quantities of blue Violets from the South of France are in, and these quite spoil the trade for English flowers, which, though much sweeter, are not so large and good in colour. Parma Violets are also very plentiful. Carnations are very good and abundant.

The trade for Orchid bloom is at a very low ebb just now; very fine blooms of *Cattleya labiata* were shown me which it was difficult to find buyers for at 6s. per dozen. Cut bloom of *Begonia Gloire de Lorraine* was on several stands, but did not appear to move freely. I think when it is better known how well this stands in water, florists will use it more freely. A. H.

CHRYSANTHEMUMS.

One of the best batches of market nursery-grown plants I have met with for a long time is that at the present time in the Alma Nurseries, Farnham. It is not that the plants are remarkable for quantity, but for the quality of the individual flowers.

Mr. Bide, in selecting varieties, stipulates for three points of excellence—viz., shapely flowers, plenty of them, and colours of decided tints. The method of cultivation adopted with the pot-plants is, broadly, this: In the month of December the cuttings are taken and inserted singly in pots; when rooted, they are topped once at about 9 inches high, and allowed to grow away at will afterwards. The result is a plant which by judicious disbudding carries from twelve to twenty high-class blooms, and, what is important, a good length of stem, well clothed with foliage of a deep green tint, which adds to the value of the blossoms when used in vases.

In the case of those planted out, and which are lifted in early autumn and transferred to beds in suitable houses for flowering as one-year-old plants, such varieties as L. Canning and W. H. Lincoln are preferred, for the reason that they give a greater number of flowers and lift in a better condition than others. A large number of the latter are bearing as many as forty blooms apiece at the present moment, the blooms barely half expanded. I never saw more healthy or stockier plants, full, too, of promise for the month of January.

The most effective of all was C. niveum, which still holds its own as a white-flowered variety. The blooms were of the purest white, quite full in the centre, and 5 to 6 inches in diameter. Mme. P. Rivoire was blossoming abundantly and is a variety distinctly worthy of the attention of the florist and gardener. Florence Percy, employed in sprays, is a much-admired flower; Anna Hartshorn, for Christmas, is one of the best of whites with a pink flush; Florence Davis, a flower with a green tinge, finds many admirers. None is handsomer than Lord Brooke, with its rich bronze lined with gold; the stout stalks, surmounted by compact blooms, are all that could be desired for decorative purposes. Victor Lemoine has red florets tipped with gold, and is effective; yellow niveum is an exact counterpart of the type and a pretty variety. Phœbus, which was observed in some quantity, is a great favourite with the public. Some blooms of this variety reflex, while the florets of others are prettily incurved, and the colour is very decided—a recommendation of itself. Queen of the Exe, of a delicate shade of pink, is a full flower of the Japanese section, which needs only to be seen to be admired. Tuxedo has florets of bronze and yellow, and it is much admired as a late-flowering variety; as is also Beauty of Sholing, another of the same type; and Mrs. Garner, with twisted florets, is of the same class. Etoile de Lyon and its bronze sport are appreciated to some extent, partly on account of their lateness; the colour of each was just showing itself at the time of my visit. Mrs. J. Thompson, with flowers of bronze-red coming in clusters on stout stems, would be considered by those who prefer such colouring a gem; its yellow variety too is valuable. Western King and Souvenir de Petite Amie are grown in quantity, especially the latter, which is of such a compact habit of growth that as a pot plant it is much inquired for. E. Molyneux.

MARKET TOMATOS.

I have proved that named varieties, received direct in the first place from the raiser or distributor, are so altered by cultivation and selection that the original type is quite changed. No better illustration of this could be afforded than with the meritorious dish of Frogmore Proflic exhibited, not long since, in the Gold Medal collection of vegetables at the great Chiswick show

by Messrs. James Veitch & Sons, Ltd., Chelsea. Here we had a good example of what can be done by selection. I venture to state that these fruits were at least one-third deeper than the best of what I grew the first year it was sent out. This variety without doubt has no equal for early forcing, and if the centre bloom-bud is removed early the result will be a fine, weighty fruit; and it is a well-known market cropper.

The Comet, of which variety I regretted the entire absence, is an illustration again of a good market Tomato. If this variety is not selected for seed purposes, a flat fruit will be the result. A true market fruit should be of medium size, smooth and fairly deep, and of good colour, the fruit should be solid, this last item being very important. The "strike," when weighed to 12 lb., should have fruit below the rim. Speaking within my own knowledge I know that far more is being done by the average market man in the selection than is generally believed. The days have gone by for anything now to be saved for



FIG. 158. CORDYLINE AUSTRALIS IN THE DELGANY NURSERIES, CO. WICKLOW.

seed purposes. Tomatos represent a large portion of the grower's paying crops while his Grape-Vines are getting up, or as a succession to Cucumbers, or when grown as a main crop.

Lastly, in the matter of degeneration it is more marked in some varieties than in others. Winter Beauty for some cause has become exceedingly variable, especially on strong soils. I have seen a good proportion of a crop of this variety but little removed in form from the old corrugated red. Stephen Castle.

CORDYLINE AUSTRALIS.

OUR illustration (fig. 158) is taken from a tree that flowered recently in Messrs. Pennick & Co.'s nurseries at Delgany, in Co. Wicklow. The flowers are white, densely crowded in branching panicles so as to be highly ornamental; the leaves are 2 to 3 feet long and 3 to 4 inches broad, oblong, lanceolate, and with numerous prominent nerves.

Sir Joseph Hooker writing on the genus Cordyline in our columns, 1860, p. 792, points out that C. indivisa, with which C. australis is frequently confounded, is a totally different plant, with a much broader yellow-green leaf and a drooping panicle of much larger flowers. Bot. Mag., t. 5636.

ON THE NOMENCLATURE OF THE PAMPAS-GRASS.

IN 1897 I pointed out in this journal (vol. ii., pp. 357, &c.) that the Pampas-grass, till then known as *Gynerium argenteum*, was generically distinct from *Gynerium*, and constituted, together with several congeners, a new genus, for which I proposed the name *Cortaderia*. There could be no doubt as to the facts, and the name was adopted (see Hæckel in Engler u. Prantl, *Natürl. Pflanzenfam., Ergänzt.*, i., p. 6). However, of all things, plant names "habent sua fata." A few days ago I happened to glance through the table of contents of the "Miscellanées" of the second volume of the *Illustration Horticole* (1855), when my eye caught the heading of a paragraph running thus: "*Le Gynerium argenteum* doit former un genre nouveau sous le nom de *Moorea*, Ch. L." Turning to p. 14, I found, in a footnote to *Gynerium argenteum*, this observation: "*Moorea argentea*, No. 6, in hac nota, et solum [sic] hucusque species cognita"; whilst on the next page Lemaire, the author of the paragraph in question, concludes his remarks on the Pampas-grass with an explanation of the footnote. As it has been overlooked for so many years, a translation of this passage may not be out of place: "Dr. Lindley was rightly of opinion that it [*Gynerium argenteum*] differed very considerably from *Arundo* and *Gynerium*, above all in its dioecious flowers and the reflexed hooks of its pales,* and might form a new genus. It must, of course, be left to a botanist of his qualification to define that genus technically, as he must have had its essential characters before his eyes when writing thus. Meanwhile, he having remained silent so far, no doubt involuntarily, we propose the name *Moorea* for our plant, reserving an account of the additional character for a later occasion, when we shall have seen flowers. Our genus is justly dedicated, as will be seen, to D. Moore, the distinguished botanist, and Director of the Botanic Gardens at Glasnevin, to whom we owe the introduction† of this plant into our gardens."

The statement attributed to Lindley is contained in a note by him in Paxton's *Flower Garden*, vol. i., Glean, 175, where he says: "According to Prof. Kunth this species (*Gynerium argenteum*) is an *Arundo*; but to us it appears quite as different from that genus as from *Gynerium*. And although it is by no means one of the same genus as *G. saccharoides*, yet it may as well preserve its common name, faulty though it be, as be transferred to *Arundo*, from which it must be expelled. The inflexed hook of its pales is extremely remarkable, and, together with its dioecious character, leads to the inference that it may be a genus distinct from either."

Lindley's note appeared in 1851, Lemaire's paragraph in 1855. The following year Lemaire returned to the subject in an article on "*Floraison du Gynerium argenteum* (*Moorea*, ? *argentea* No. 6)," in *Ill. Hort.*, iii., Misc. 98. Recommending it for cultivation, he begins his paragraph with these words: "Waiting for an occasion to revert to the botanical status of this plant, which we presume ought to be the type of a distinct genus . . ."

With this the question dropped. Lemaire never published the "additional" characters of *Moorea*, nor did he use the name again, the Pampas-grass being after that spoken of in the *Illustration Horticole* as *Gynerium argenteum*. Nor did Lindley himself take any notice of it, preferring to stick to the old name, "faulty though it was." In fact, the name *Moorea* was lost altogether, to which, no doubt, the absence

* This is Lindley's term for the "flowering glumes" or "valves."

† The actual date of introduction was 1843, and the seeds were sent from Buenos Ayres by Tweedie (D. Moore in Lindley and Moore, *Treasure of Botany*, i., 561).

of an alphabetical index of the plant-names mentioned in the "Miscellanées" of the *Illustration Horticole* contributed largely. So much is certain with respect to Lemaire's proposal that it actually referred to the Pampas-grass, that it rested entirely on Lindley's authority, Lemaire not having seen the flowers of the grass himself, and the name was finally dropped by its author. As to Lindley's differential characters, however, I must observe

Lindley, who recognised it as the representative of a distinct genus, although he did not give it a name, and mistook the differential characters. True, Lemaire did what Lindley omitted, but without adding anything of his own, so that Moorea, Lemaire, stands as the name of a practically undiagnosed genus. Deeply convinced of the necessity of limiting changes of names to a minimum, I refrain, under the circumstances,



FIG. 159.—CEDRUS DEODARA AT LINTON PARK, MAIDSTONE, 79 FEET HIGH, 66 FEET IN DIAMETER OF BRANCHES.

that they missed the point altogether. Both the true *Gynierium* and the Pampas-grass are dioecious, and neither has "pales" with "inflexed hooks." The differences, which indeed are very considerable, are in a different direction, as may be seen from my paper published in this *Journal* (1897, vol. ii., pp. 357, &c.).

I offer the above observations as a contribution to the history of a remarkable grass which has been for many years one of the greatest ornaments of our gardens and parks, and in justice to

from resuscitating Lemaire's name, the more so as that would involve the reduction of the names of the other species of *Cortaderia*, namely, *C. araucana*, *C. speciosa*, *C. rudiuscula*, and *C. Quila*, to synonyms, and the admission of as many new combinations under Moorea, viz., *M. araucana*, *M. speciosa*, *M. rudiuscula*, and *M. Quila*.

I have only to add, that Mr. Rolfe published a new genus of *Orchidaceæ* under the name of Moorea in this *Journal*, 1890, vol. ii., p. 7. *Otto Stapf*.

CONIFERS AT LINTON.

In the present issue we are enabled to give some illustrations from the fine collection of Conifers at Linton Park, the residence of F. S. W. Cornwallis, Esq., near Maidstone. These were mostly selected and planted by the late Mr. Masters, of Canterbury, in or about 1849. A short note concerning them, with measurements of particular specimens, is contained in the report of the Conifer Conference, *Journal of the Royal Horticultural Society*, 1892, p. 491. Whether the Deodar then mentioned as having attained the height of 60 feet is the same as that now figured we do not know. In any case, Mr. Kneller, the present gardener, tells us that the Deodar (fig. 159) is now 79 feet in height, and its branches have a diameter of 66 feet. The "habit" is very different from that of most Deodars, and bears out Sir Joseph Hooker's statement that "habit" alone is a very untrustworthy guide to the determination of particular specimens. Mr. Kneller was good enough to forward us a small piece of a branch from the particular tree figured, so that its identity is beyond question.

The giant Sequoia of California, whose dimensions excite so much astonishment, is in its youth a symmetrically pyramidal tree, well suited for the purpose of forming an avenue (fig. 160). Unfortunately it often happens as the tree grows up that the foliage on the lower branches becomes brown and shabby. In that case those who feel no interest in the mighty tree or in its wonderful history do not care to retain a tree that has become more or less unsightly. Like its near ally, the Red-wood, the bark itself is attractive, and not the least wonderful point in its history is the fact that these species, or some extremely close to them, once flourished in these islands, where their cones have been found at Bovey Tracey and elsewhere. It is well known that the juvenile foliage of Conifers is very often different from that characteristic of the adult plant, and, moreover, that, as in the so-called *Retinosporas*, the juvenile foliage is sometimes retained long after the youthful age, as measured in years, has passed. Now, the *Wellingtonia* foliage always suggests that it belongs to a youthful type, and that the adult foliage is not developed. If anyone will compare the leaves of *Sequoia gigantea* or *Wellingtonia* with those of *Sequoia sempervirens* (Red-wood) he will see that the *Wellingtonia* possesses the youthful, the Red-wood the adult characteristics, so far as the foliage is concerned. Some day it is possible we may meet with a shoot of *Wellingtonia* which may confirm this conjecture.

VEGETABLES.

IMPROVED WINDSOR BEANS.

The common Broad Windsor Bean, with its many synonyms, has usually one or two Beans in a pod; improved varieties show the possession of three or four. It may interest some to know that the name Windsor was given to this type because it was first cultivated in that neighbourhood by some of the Dutch gardeners who came over to England at the time of the Revolution; and it is stated there is near Eton a field known as the Dutchman's Garden, in which in all probability the Beans were grown. It is certain that the Windsor Bean has undergone considerable improvement during recent years. We see that not only in the photographic illustrations which appear in the illustrated catalogues of some of our leading seed houses, but from the size and fullness of the pods of Beans staged at many flower-shows about the country. I find our Ealing allotment holders growing Windsor Beans with four Beans, and occasionally more, in a pod;

but they club together and purchase pedigree seeds to sow, and they cultivate well, for the competition is very keen among them at our annual flower-show early in July. I can see the plants growing on the allotments as I judge them for prizes.

Last July I was judging at a flower-show at St. Ives, Hunts, and was struck with the size of the pods of the Windsor Beans shown on that occasion; they contained in most cases five Beans, and here and there a sixth could be counted. I was informed the variety was Sutton's Green Giant Broad Bean. I give the name because I think so fine a Bean should be duly recognised.

colour to get some reason for this, but have not found any.

That in the case of the Green Bean there is a suffusion of that special colouring matter we term chlorophyll, or leaf green, there can, I presume, be no doubt; but it would be interesting to know what causes the change in colour and flavour. The common White Windsor Bean has long been a favourite vegetable with the poorer classes in this country, but for the tables of the well-to-do young Green Beans are preferred, the green colour not being lost in the process of cooking. The green varieties of the Windsor and the Longpod are much grown for market purposes.

pollen and honey. Broad Beans are largely grown for market and seed purposes; it is the practice with some who grow for seed to pick a gathering of the earliest-matured pods and market them, leaving the remainder of the crop to ripen.

Two insect pests trouble the Bean cultivator—one, the Bean aphid or Black Dolphin (*Aphis rumicis*), or what is popularly known among Bean cultivators as the Smother-fly; it clusters upon the young tops, paralysing the plants and rendering them almost fruitless; the other, the Bean Weevil (*Bruchus granarius*), which is said to be destructive to other plants besides the Bean.



FIG. 160.—SEQUOIA GIGANTEA AVENUE AT LINTON PARK, MAIDSTONE. (SEE P. 400.)

Messrs. Sutton & Sons do nothing in the way of undue exaggeration when they give an illustration of a pod of this Bean containing six seeds. John Harrison is also a fine selected form with large full pods. It would be interesting to know to what we owe the change in colour seen in what is known as the Common White Windsor, and in the Green Windsor Beans. That the Green sported from the white may be assumed, as a corresponding instance is afforded in the case of Beck's Dwarf Green Gem Bean, which sported from the Dwarf Fan or Cluster. It is asserted that there is a richer flavour in Green Beans and Green Peas than in ordinary white or straw-coloured seeds when cooked. I have turned to Chevreul and also to Professor Church's work on

The Green Longpod is later in coming into use than its white relative. The Green Windsor can be gathered about the same time as the white, or only a few days later.

A strong, deep, fertile loam, such as one finds in parts of Lincolnshire, Essex, &c., is an ideal one for Broad Beans. In it the upright, stout, fibrous plant-stems root deeply, and a vigorous growth results, with a harvest of well-filled pods. The flowers are usually white with a black spot in the middle of the wing; these are succeeded by long, thick legumes, woolly and soft within, and enclosing large flat seeds. The flowers are fragrant; there are times when the perfume is more pronounced than at others, and the bees appear to find among them abundant harvests of

One account states that the weevil hides in the ground by day, but works its mischief during the night, piercing pod and bean and depositing its eggs in the latter. It does not appear to affect the vitality of the Beans, as a few years ago an experiment was made by sowing a number of Beans which had been riddled by the insect, but they all produced vigorous plants. When so pierced the sample is seriously affected in quality and price. Foreign-grown Broad Beans imported to this country are sometimes badly affected.

Some of the old names given to Windsor Beans in seed lists have disappeared from them, such as Mumford, Thick Windsor, &c., and also the name of Toker and The Dutch, among the Longpods, though the Sword or Turkey Longpod,

Hangdown Longpod, and Mackie's Monarch remain. There is this to be said in excuse of the wholesale seedsman's retaining the names of synonyms, that certain districts have their distinctive names for Beans, and in the interests of customers they are retained. But he is not without a grievance against some of the retail houses who put their own pet names to good selections of well-known types. Recently an exhibitor competed in three different classes for special prizes offered by certain firms for their particular specialities in vegetables. The same sort in several instances was seen under three different names. But what did it matter to the prize-donors so long as the subjects were of high quality and bore their distinctive names? R. Dean.

KEW NOTES.

CALLICARPA PURPUREA, Jussieu.—This fine old garden plant is now making a pretty display in the Victoria-house. Although denuded of foliage at the time when the purple berries are at their best, yet the plant is one of great value for greenhouse and conservatory decoration during the winter, for the berries retain their freshness for fully three months. Fine plants are soon grown from either seed or cuttings, and if cuttings are rooted about April or May, and grown on in a little heat during the summer, nice little plants are obtained for the following winter. Specimens two or more years old make a grand display. The plant is seen at its best when grown as a standard, having a stem about 3 feet high, from the top of which the pendulous branches will often arch over and touch the ground. The flowers are borne in axillary clusters; they are not at all showy, but every inflorescence produces a cluster of beautiful purple berries, often clothing the stem from the base to the apex. A native of China.

MITRIOSTIGMA AXILLARIS, Hochstetter (*GARDENIA CITRIODORA*, Hooker).

This charming plant is now flowering in the stove; the specimens are small and bushy, about 1 foot high, the branches being crowded with somewhat fleshy white flowers, delightfully scented. It is a native of Natal, and can be grown in a greenhouse during the summer, though the stove suits it best at this time of the year, and develops the flowers to perfection. It is certainly a plant of great merit, and should be more commonly grown than is the case at the present time.

MANETTIA BICOLOR.

This plant is flowering in the Water Lily-house, and has a profusion of flowers. These are almost tubular in form, about $\frac{3}{4}$ inch in length. The lower part of the corolla is bright red, and the upper part a very pretty yellow. This is another old garden plant which is rarely met with, though it is difficult to understand why. The plants now in bloom were grown from cuttings struck in May last, and some of the shoots now measure 10 feet in length; each has a large quantity of flowers.

MANETTIA CORDIFOLIA.

A plant of this species is also flowering very freely in the Palm-house. The flowers of this species are about four times as large as those of *M. bicolor*, very much inflated, and pale red in colour, and it is a much stronger grower than the former species. They are both natives of Brazil, and are good subjects for growing on the roof, or trained on pillars in the intermediate-house or stove. H. W.

LANDSCAPE GARDENERS AT ALTONA.—The landscape gardeners of this town have determined to agitate for an improvement in wages next spring, and they have chosen a commission for the carrying out of their tariff of wages.

The Week's Work.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

The Protection of Roses against Frost.—In the northern parts of these islands some form of protection should be provided against injury by frost to the Tea, hybrid Tea, Noisette, and Banksian Roses, these being rather more tender than others. Protection is more especially required by that section of climbing Roses which flower only from side-growths formed on wood of the previous year. In dealing with dwarf bush Roses it is sufficient to draw up a mound of soil round the base of each, or if this be frozen and unworkable, then use dry screenings from the potting bench or finely-sifted coal-ashes, burying a few of the lowermost buds on the wood of the present season's growth. Mulchings of rank farmyard manure, as sometimes recommended, although affording sustenance to the plants, are of no service as a protection against frost, and should be avoided. For standard Teas and the more tender climbing Roses, dry bracken lightly placed in among the shoots is excellent, and has some advantage over straw, in being less unsightly. In any case I do not advise the application of protective materials till the state of the weather warrants it, for nothing under say 10° of frost will do the slightest harm—in fact, until danger-point is reached, exposure to the weather is less harmful than protection.

Irises.—Among the few bulbous plants which ought not to be planted early are the Irises, as early planting leads to precocious growth, which gets injured by frost and biting winds. The present is a suitable time for planting these charming but little grown plants. The position for a bed or clumps of them should be elevated and dry, and the soil friable or sandy by nature or made so by art.

Garden Hedges.—Where Quick and other deciduous hedges are to be planted, select a mild time during the present season for carrying out the job. Care in selecting good plants, having a plentiful supply of roots and clean tops is necessary for a successful start. Such hedges are the better for being cut down to the ground-level after one year's growth has been made, so that size is not a very important point, provided the other matters are right.

Seeds.—Where home-grown seeds of flowering plants have been kept in the pods, capsules, &c., an early opportunity should be taken of to shake or beat out and clean them before storing away in seed drawers. If uncleared for any length of time maggots often develop in the mass and devour the seeds.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Cypripedium niveum, *concolor*, *Godefroyae*, *G. leucochilum*.—The varieties of this section baffle some of the best cultivators of Orchids, and if they once get into a bad state of health it is a difficult matter to again make them vigorous. It is surprising to observe these plants thriving under conditions the reverse of what would seem to be suitable. I have known the plants supplied copiously with water at all seasons and still appear remarkably healthy; and, on the other hand, plants which have been afforded scarcely any water at the root during the winter months have been their equals. I do not, however, advise cultivators to practise such extremes. During the summer months these plants should be afforded plenty of moisture at the root, providing the materials are of a porous nature; but now that growth is completed, water should be very cautiously afforded, indeed, only what is just sufficient to keep the foliage and roots healthy; and this should be afforded by immersing the pot to three-fourths of its depth in a vessel of tepid water, thus avoiding the wetting of the leaves, so injurious to these plants in the winter months. Select for them a light position in the warmest house at this season, and a shady one in the same division during the summer months.

C. bellatulum.—This species should be similarly treated, excepting that a lesser degree of warmth is necessary. A light position in the Cattleya or intermediate-house will meet its requirements at all seasons.

Cypripedium Hybrids.—The hybrids from the foregoing section are getting more numerous every year. Such varieties as *C. Chapmani*, *C. Schofieldianum*, *C. Charles Rickman*, *C. Cravenianum*, *C. Aylingi*, *C. microchilum*, *C. Vipani*, *C. Gertrude Hollington*, &c., possess much attractiveness when well grown. Many of the hybrids do not prove easy of cultivation, as some would have us believe, especially during the winter. A common mistake made with them is in affording too much heat and too little ventilation. It is well to take into consideration the parentage of each hybrid, and afford treatment intermediate between the two as nearly as may be possible. The best season to repot them is the winter, when new roots are being emitted from the growths last made. The pots should be well drained, and the compost consist of turfy peat and loam, leaf-soil, and chopped sphagnum, adding a considerable quantity of silver-sand. Water must be afforded with care after any disturbance of the roots.

Zygopetalum Mackayi and *Z. crinitum*.—The flower-spikes now developing should be fastened to neat stakes. When plants of these species are grown in a cool intermediate-house, the flowers come of a better colour than is the case in warmer quarters. For a winter display they are very useful. When the flowers are fully expanded, excess of moisture at the root and in the air must be carefully guarded against, otherwise spotting of the flowers will occur.

Lycastes.—The species *Skinneri* and the hybrids, *L. Ballae*, *L. Mary Gratrix*, are at home in a cool intermediate-house, and these plants are now throwing up their flower-spikes in profusion. Strong plants in good health are capable of carrying a large number of flowers without injury to the health of the plants, whereas weakly plants should be deprived of some considerable number of their flowers. The flowers should be neatly tied out, and the plants afforded just as much water as will moisten the materials. *L. cruenta* and *L. Deppii* will have finished up the new pseudo-bulbs, and much less water at the roots should be afforded till the new growths and flower-spikes appear in the spring. *L. (Bifrenaria) Harrisoniae* is a plant that forms a good basket plant for the Cattleya-house. Now that growth is completed, it will need very little water during the winter.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bickton, Budleigh Salterton, Devonshire.

The Conservatory.—The bulk of the Chrysanthemums being now past their best, a rearrangement of the house will have become necessary. There may be a difficulty in finding flowering plants having the variety of colouring which we have in the Chrysanthemum, but there should be no lack of suitable subjects. As regards the arrangement of the latter, something will depend upon the internal construction. If beds exist in the central parts, these can be utilised for groups of *Richardias*, *Azaleas*, *Hippeastrums*, *Begonia Gloire de Lorraine*, white and red-flowered *Primulas*, *Cyclamens*, zonal *Pelargoniums*, *Salvias*, *Marguerites*, Roman *Hyacinths*, and Paper-white *Narcissus*, which will afford nice combinations of colour; and if a night temperature of not less than 55° can be maintained in severe weather, *Euphorbias* (*Poinsettia pulcherrima*, in conjunction with *Richardias*, will show to great advantage. The same holds good with *Calanthe Veitchii*, the long, pendulous spikes of which, emerging from an undergrowth of Maidenhair Fern, and having a background of yellow *Coronilla* or *Cytisus*, will not fail to be admired during the next two months, the dullest of the whole year. In affording air be careful that no cold draught is allowed to play on the *Calanthes* or *Euphorbias*, and that water be applied early in the day, so that the moisture may dry up before nightfall. If Roses be planted against the back walls or under the roof, these should be pruned and the shoots thinly disposed. If there is a

plant of *Luculia gratissima* growing in the border, let the soil about its roots be kept on the dry side, now that the beauty of the plant is past. The necessary pruning should be deferred till early spring.

Cyclamens.—Plants raised from seeds sown in September last should be dibbled-in, 2½ inches apart, in pans filled with light sandy soil having a fair percentage of flaky leaf-soil in its composition, to which the plant takes readily. The little corms should only be partly buried. A minimum temperature of 58°, advancing by day to 65°, will be a suitable one during the next few months. Keep the plants within 9 inches of the roof-glass, and sprinkle them once or twice daily. Plants in flower or flower-bud may be assisted with weak manurial water applied once or twice a week, and be fumigated lightly on the first sign of green-fly or thrips.

Bouvardias.—As these plants pass out of flower let them be placed in a glasshouse or pit from which frost is excluded. Here the wood will become firm by the time that pruning will have to be done, and during this period of rest very little water will be required by the plants.

Christmas Roses.—If flowers are required early some of the more forward clumps may be carefully lifted with large balls and placed in pots or tubs, the flowers of which will quickly open if afforded a temperature of 55°; but the flowers are very much finer and will last longer when allowed to come on naturally, or with hand-glasses or a garden-frame placed over the clumps.

FRUITS UNDER GLASS.

By T. H. C.

The Orchard-house.—Apart from its use as a fruit-house, the orchard-house is often a store for pot Strawberries, stock Chrysanthemums, &c.; but to do the fruit-trees justice, the treatment of other plants should be quite subordinated to that of the fruit-trees, there being times at this season when frost is of benefit to the trees that are planted in the borders, in inducing rest and causing them to respond more readily to artificial warmth when the proper time comes, if it be necessary to start them with its aid. The future cleanliness, healthiness and fruitfulness of the trees depend in a great measure upon what is done at this season. Among these matters is the cleansing of woodwork, glass, walls, &c., and the painting of the woodwork when this is necessary. The trees, too, should be cleansed; and for this purpose nothing is more efficient than the caustic solution recommended in the Calendar for October 24. Trees which do not need any cleaning may be sprayed with this same mixture, taking care, however, that it does not get on to the paint of the house, which it will speedily blacken. Treat each tree according to its peculiar requirements in the way of additional pot-room, root-restriction, top-dressing, or repotting as the case may suggest. Fruitful aged trees require liberal top-dressings of loam, to which should be added a small quantity of bone-meal; mortar-rubble, and charred garden-refuse, and over all a thick mulch of farmyard manure. The same kind of treatment, if afforded young trees growing strongly, would only aggravate their unfruitfulness; and, on the contrary, root-pruning is the proper corrective. In light soils the application of water should not be neglected, and this too before the soil becomes dust-dry. Applications of liquid-manure at this time will greatly benefit trees that have come to a fruitful age. In unheated orchard-houses keep the soil in the pots on the dry side, and should there be any danger of the frost bursting the pots, afford protection betimes. If planting has still to be done, carry out the work as soon as possible.

Cherries.—These do well in a mixed orchard-house, but when a regular annual supply of fruit is desired Cherry-trees should have a house to themselves; and this should be put in readiness for starting towards the end of the present month, forcing being begun with a temperature at night of 40° to 45°, and 5° to 10° more by day. In other respects afford the same kind of treatment as for the early Peach-house. Where a few trees are grown in pots, these may for the present be brought on in a recently started Peach-house.

For this purpose choose the earliest varieties, and such old-established trees as are thickly furnished with fruit-spurs and buds. Yearly repotting the trees is not a necessity, and when potting is called for very large pots are not required; in fact a tree may be grown in an 11-inch pot for a number of years by reducing the old ball and roots, and repotting firmly in the same sized pot in a good loamy compost. Four good varieties are Early Rivers, Early Lyons, Black Circassian, and May Duke.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Protecting the Fig on Outside Walls.—The weather at the time of writing points to an early spell of frost, and it will be prudent to afford the trees protection of some kind. A good method of doing this is to detach the branches from the wall and tie them in bundles loosely, afterwards winding hay or straw bands around each set of branches, and securing them to stout nails or staples driven into the face of the wall; the base of the stem may be covered with straw or bracken, and the same may be thrust between the main branches; and finally the ground over the roots may be mulched with stable-litter.

Mulching newly-planted Fruit-trees.—This work should receive attention forthwith. Straw farmyard litter is excellent material to use, being laid over the roots 6 inches thick; but before placing it in position see that the soil over the roots, if hard, is loosened. Any trees that have been bought in which are not yet planted should be well protected where they are laid-in by placing a good thickness of bracken or straw over their roots. The frosty weather affords an excellent opportunity of wheeling out manure, &c., on to the bush-fruit quarters. If the soil is of a heavy nature, bush-fruits of all kinds are much benefited by a dressing of ashes and charred earth, garden-refuse mixed with the manure may also be lightly forked into the surface-soil during mild weather. Let all prunings and trimmings from the fruit quarters be collected and burned forthwith, and the fruit quarters kept in a tidy condition. Stakes of all kinds and sizes should be pointed and tied in convenient bundles, and placed under cover for future use.

The Fruit-room.—Apples are keeping better than could have been expected after such a sunless summer. All fruits should be examined weekly, and decaying fruits removed. Keep the temperature as even as possible; in the case of severe frost it will be well to protect the door and windows (if any) with mats. This will be much better than using artificial heat of any kind.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. FIGOTT, Bart., Wexham Park, Slough.

Potatoes.—Early Potatoes are produced by various methods, but for very early supplies pot-culture is best. The pots should be thoroughly well drained, and half filled with a compost consisting of leaf-soil ½, turfy-loam ¼, and spent Mushroom-bed manure passed through a ½-inch meshed sieve. When the buds have grown to about an inch in length, place the tubers in the pots, first removing all the growths but two, then three-parts fill the pots with warmed soil, thus leaving sufficient space for earthing-up after the tops have reached something higher than the rim. Two sets may be placed in an 8-inch pot, and three in one of 10 inches. Stars the tubers in a temperature of 50° to 55°, and at soon as the shoots have grown through the soil keep the pots as near the glass as possible. A buoyant air must be afforded always, cold draughts avoided, and water applied carefully. Where deep brick pits are provided, these may be filled with Oak or Beach leaves trampled-in firmly and to within 1 foot of the lights; and when the heat of the bed has declined to about 85°, a light sort of compost should be spread over the surface to the depth of 10 inches, made level and the sets previously started planted. These may be planted at 12 inches apart and 15 inches between the rows. Sharp's Victor, Sutton's May Queen, and Veitch's Improved Ashleaf are excel-

lent varieties for present planting in pots or in pits and frames. Carefully lay out a single layer of sets in shallow boxes or trays, the eye end uppermost, in number sufficient for a succession, and let them be fully exposed to the light near the glass in gently heated house. Lay out, in a frost-proof cool dry shed in a similar manner, all the different varieties intended for planting in the spring, but not doing anything to hasten growth before planting time.

Rhubarb.—Continue to place roots in the Mushroom-house or any dark place where there is a temperature of 50° to 55°. Where the old method of forcing Rhubarb in pots in the open by means of fermenting tree-leaves and stable-litter is practised, some beds may now be made up. On commencing, place boxes or Seakale-pots over a certain number of the roots, then cover these with leaves or stable-litter and leaves sufficient in bulk to afford a warmth of 65° to 70°. Seakale may be forced in the same manner, and the produce will be superior to that forced in any other way.

Salads.—Continue to introduce Chicory into a warm dark place, cutting off the leaves within an inch of the root. Afford Lettuce in pits abundance of air on every favourable occasion, or the plants are sure to damp off. Protect those in the open from frost, either by lifting and placing them in cold frames, or by placing frames or some kind of protection over them. Those sown in boxes in heat should be transplanted as soon as large enough to be handled. They will make useful material for salad early in the year. Blanch Endive as required, and protect plants in the open from frost in the manner advised for Lettuces. Seeds of Mustard and Cress should be sown weekly in warmth.

THE APIARY.

By EXPERT.

IN many cases a little more care should be taken in packing up bees for the winter. Where possible the sides of the hive between the inner case or brood-chamber should be packed with chaff or dry sawdust; and to dry the latter place it in an oven for a short time, as damp sawdust will cause a lot of mischief, not only in keeping the hive damp, but in the disagreeable smell which it would give off. Do not let the dust get over into the brood-chamber. The back can then be filled-in with the same or dry shavings. The first cover for the bees should be, if possible, a piece of American cloth having a hole cut in the top, on which to place a cake of candy; over this a flannel wrapper or something of the kind, sprinkled with powdered naphthaline, and then several more thicknesses of cloths, and over these several newspapers running from back to back and from side to side, which will keep in the warmth; and two short pieces of wood on the paper will keep all in place.

Where hives are much exposed, put a couple of screws through the roof to the body-box; and if possible place a hurdle or two around them. In very rough places thatched hurdles answer the purpose well; and in damp places the hives should be raised on several bricks. By nailing perforated zinc over the entrance to prevent mice from entering the hive will avert a great deal of mischief; this is very much required if straw skeps are used. It is a good plan to cover the whole skep with fine wire netting, and nail it well down all round the stand. Sections not sold should be carefully examined, and kept in a dry place; unless this is done the honey in them will be liable to ferment and throw off a very unpleasant smell, which will certainly spoil the sale; and they should also be well protected from mice.

MR. E. T. GILMAN.—This well-known successful gardener, who has been gardener to the Earl of SHREWSBURY at Alton Towers during the past eight years, and was head gardener at Ingestre Hall, Stafford, for twenty years previously, has been requested to again undertake the entire charge of the gardens at Ingestre, in addition to those at Alton Towers, and Mr. GILMAN will shortly take up his residence at Ingestre. Mr. GILMAN's friends will congratulate him upon the mark of confidence reposed in him by his employer.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY,	DEC. 14	National Chrysanthemum Society's Executive and Floral Committees' meeting.
TUESDAY,	DEC. 15	Royal Horticultural Society's Committees' meeting. Annual General Meeting of the National Dahlia Society, at 3 P.M., in the North Room, Hotel Windsor, Westminster, S.W.
THURSDAY,	DEC. 17	Linnean Society's meet., 8 P.M.
SATURDAY,	DEC. 19	Annual General Meetings of the National Auricula, at 2.45 P.M., and National Carnation, at 4.15 P.M., at Horticultural Club Room.

SALES FOR THE WEEK.

MONDAY, DEC. 14—	At 12.30, at Stevens' Rooms, Roses, Azaleas, Palms, Fruit Trees, Lilies, &c.
WEDNESDAY, DEC. 16—	Palms, Plants, Perennials, Roses, Azaleas, Bulbs, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11.—614 cases Japanese Lilliums, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 5.—At Stevens', Roses, Lilies, Azaleas, Palms, Decorative Plants, &c., at 12.30.
THURSDAY, DEC. 17—	Orchids, by Mr. John Cowan, in the Coal Exchange, Manchester.
FRIDAY, DEC. 18—	Imported and Established Orchids, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.—Orchids, by Mr. John Cowan, in St. James' Hall, Leeds.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —40.4°.

ACTUAL TEMPERATURES:—

LONDON.—Dec. 9 (6 P.M.): Max. 53°; Min. 40°.

Dec. 10 (noon): 49°; showery, overcast.

PROVINCES.—Dec. 9 (6 P.M.): Max. 48°, Skerry Isle; Min. 41°, off the Tyne.

THOUGH some of us may not yet have realised it, we are now at a turning-point in the history of plant-cultivation. LIEBIG'S chemical researches mark, perhaps, a more important epoch in the past history of our science than does the demonstration of the cell-theory of plant-structure. Now, however, we have to face a revolution in scientific opinion as great as that produced by LIEBIG, and in some ways antagonistic to the whole theory of cultivation propounded by him and his contemporaries. They practically reduced the vital activities of living organisms to terms of merely chemical laws of combination. The energy exhibited in such vital action, whether it was shown in the rise of temperature in a germinating seed, or manifested in the muscular energy of an animal's movements, was to them merely the expression of a process identical with, or at least analogous to, ordinary combustion. Life, we were told, was a continued change, a building up and breaking down of chemical compounds. The agriculturist and horticulturist were therefore exhorted to pay every attention to the fundamental laws of chemical combination.

The work of PASTEUR inaugurated another era. Life, we are now told, is a series of fermentations, and it behoves us, therefore, to study this remarkable series of chemical processes, the action of the "enzymes" or

soluble ferments within the living organism and the micro-organisms that act apparently as carriers of these active chemical principles. In other words, a method of study, largely biological, bids fair to replace the processes of the chemistry of dead matter, and the science which the practical man requires for his guidance to-day is largely that of the bacteriologist. The bacteria of the soil, with their many diverse chemical activities, prepare food-material for the roots of plants, whilst the enzymes or ferments within the plant bring about the rapid constructive or destructive changes in the food-materials by which the structure of the plant is built up or the food is transferred from one part of the plant to another. Concerning much of the detail of these processes we are as yet profoundly ignorant, though they are undoubtedly at the very foundation of what must be the cultural science of the future.

What is wanted, then, is further research, and it is with reference to research that an opportunity for horticulture is now open. We are not now alluding to the new hall in Vincent Square, Westminster. That will, no doubt, prove a great advantage to the Royal Horticultural Society, and should, therefore, indirectly benefit horticulture. The improved facilities which it will afford for the shows, the housing of the library, the accommodation for offices and for other business of the Society will, we hope, lead to a greatly increased membership and so enable the Society to extend its usefulness in all directions.

The opportunity to which we allude, however, bears more immediately upon the scientific side of horticulture—upon those investigations which are at the present moment so essential to its advance. At the same time the proposals now made to the Society are not on any scale so alarming as the demands made on behalf of science generally by Sir NORMAN LOCKYER at the Southport meeting of the British Association. Neither the well-wishers of horticulture, nor the Government, nor the general public is asked to contribute the cost of a single iron-clad, nor probably the hundredth part of such a sum.

In March last the Scientific Committee of the Royal Horticultural Society drew up a scheme for scientific work to be undertaken at Chiswick and submitted it to the Council of the Society. This scheme is, as we have already mentioned, printed *in extenso* in the last issued number of the Society's Journal. Since it was drawn up, Sir THOMAS HANBURY'S gift to the Society of the late Mr. WILSON'S wild garden at Wisley has largely altered the circumstances, not altogether for the better in this particular matter; but the Scientific Committee adhere to the main principles of their recommendation. By leaving Chiswick the Society will be relieved of the payment of an annual rental, at the same time their occupation of their new freehold garden will entail a considerable initial capital expenditure. The Wisley Garden is essentially a wild garden: it has no glass, and no adequate accommodation for the garden staff. Whilst, however, as the Scientific Committee urged last spring, it is to the best interests of the reputation of the Society that it should without delay take a leading part in promoting the scientific side of horticulture,

it may be pointed out that a start may be made in this direction at a comparatively insignificant outlay. It has been suggested that a small laboratory be erected adjoining one of the necessary greenhouses, measuring perhaps 36 feet by 12 feet; and it is estimated that, if built of pine-logs on brick foundations and lined with panelling, such a building could be put up for less than £200; whilst the absolutely essential equipment of microscopic, chemical, and photographic apparatus need not, in the first instance, exceed £100. The experimental research work of such a garden-laboratory would, however, demand the entire time of a competent scientific director. There is no existing house accommodation for such an officer, either at the garden or, indeed, at Wisley at all, and Wisley is four or five miles from the nearest railway-station. The Society could not, therefore, expect to secure the service of a competent director for less than £300 per annum; but an initial outlay of £300, with an annual expenditure of £350, is all that is necessary to initiate the scheme.

It has been suggested that the Board of Agriculture might contribute to the expenses of such an undertaking; and in this connection it may be well to repeat that the work proposed being original investigation bearing upon practical horticulture, it would be dissimilar from (though complementary to) the educational work at our colleges of horticulture and agriculture, and to the purely scientific researches undertaken at the Jodrell Laboratory at Kew. Though it is probable that the Government Department might ultimately make a grant, it is not likely it would do so until the work had been fairly started and its public utility demonstrated.

Meanwhile a second and much more ambitious scheme has been propounded. The Principal of the South-Eastern Agricultural College at Wye, which is mainly supported by the Kent and Surrey County Councils, but receives a Government grant also, has, as has been reported in the daily papers, had a meeting with the educational officials of the Surrey County Council to suggest the formation at Wisley of a branch of the Wye College, and a School of Forestry, with the assistance of the Board of Agriculture. The objects pursued at Wye being mainly agricultural, and Swanley having now become exclusively a college for women, there would seem, from the educational point of view, to be very much to be said in favour of some such plan. Though perhaps not ideally situated for a school of forestry, Wisley might very well serve for the teaching and demonstration of the principles of that science; whilst undoubtedly the proximity of the Society's garden would render it an admirable locality for the horticultural side of the College. No doubt, too, arrangements might be made for the teachers and students of such a college to have access to the Society's experimental garden. The County Council will not find such a beautiful block of old buildings ready to their hands as they did at Wye; and the scheme would therefore necessitate the building, presumably by the county, of adequate dormitory accommodation, with dining-hall, kitchen, library, lecture-rooms, and chemical and biological laboratories.

The staff could not well consist of less than four instructors, as some chemistry,

physics, and entomology would have to be included in the curriculum, as well as botany, horticulture, and forestry. To be successfully carried out, the educational work of such a college would practically engross the whole time of such a staff. Any experimental work which might be carried on at such a college would be likely to be mainly of a demonstrational character. The staff ought, in fact, to have little or no time for real original investigation. This excellent educational proposal, therefore, though it may afford a means of organising laboratories or lodgings more economically, would in no way take the place of the proposed scheme of the Scientific Committee as to research. The two schemes taken together constitute what seems to us a unique opportunity for horticulture, the realisation of which should be quite feasible.

OUR ALMANAC.—According to our usual practice, we shall shortly issue a *Gardeners' Chronicle* Almanac for the year 1904. In order to make it as complete as possible, we shall be obliged if Secretaries of Horticultural, Botanical, and allied Societies, or any of our correspondents, will send us IMMEDIATE INTIMATION of all fixtures for the coming year.

CYPRIPEDIUM (PAPHIOPEDILUM) GLAUCOPHYLLUM (see Supplementary Illustration, and fig. 161).—We are indebted to M. LUCIEN LINDEN, Moortebeke, Brussels, for the drawing from which the illustration was prepared. The drawing was sent by M. RIMSTAD, of Java, to M. LINDEN, and it was identified by Mr. E. A. ROLFE with the *Paphiopedilum glaucophyllum*, J. J. SMITH, in *Bull. de l'Inst. Buitenzorg*, VII. (1900). It is a native of Java, allied to *Cypripedium Chamberlainianum*, O'Brien, which is a native of Sumatra, and to the less showy *C. Victoriae* Mariæ, from which it is said to differ in having the leaves concolorous, and the staminode large and ovate. Raceme many flowered, petals nearly linear, ciliate, rubro-punctate, and the lip violet. The colours of the flower as seen on the drawing are similar to those of some forms of *C. Chamberlainianum*, and certainly not violet as we recognise that colour. It may, however, be a good species; but that question will have to be left open until flowers of the Javan plant are seen. So far, too, Mr. ROLFE guarded his opinion from the first.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Fruit and Floral Committees of the Royal Horticultural Society will be held on Tuesday, December 15, in the Drill Hall, Buckingham Gate, Westminster, 1 to 4 P.M., the Committees meeting, as usual, at noon. A General Meeting for the election of new Fellows will take place at 3 o'clock.

—At a General Meeting of the Society held on Tuesday, November 24, fifty-eight new Fellows were elected, amongst them being His Highness Prince Frederick Duleep Singh, Lady Emily Dyke, the Hon. Mrs. Cecil Bingham, the Hon. Mrs. Edward Portman, the Hon. Mrs. Henry Denison, the Hon. Mrs. E. Thesiger, the Hon. Lillian Elphinstone, and the Hon. The Minister of Agriculture for British Columbia, making a total of 1,339 new Fellows elected since the beginning of the present year.

LINNEAN SOCIETY.—On the occasion of the evening meeting to be held on Thursday, December 17, 1903, at 8 P.M., the following paper will be read:—"On the *Doglossa*, a Study in Evolution," by H. J. FLEURE.

THE HALL.—Baron SCHRÖDER writes:—"The new Hall of the Society, so anxiously desired by the Fellows, is now in course of erection, and

will, the Council hope, be completed for use by Midsummer next. The total cost of the Hall, offices, library, &c., including furniture, will be about £40,000, and the Council, of which I am a member, are most anxious to open the building free of debt. Towards this sum £23,000 has been contributed, of which no less than £8,471 has been given by the Council and officers of the Society. There thus remains a balance of £17,000 still to be raised. At present only about one in ten [the italics are ours. Ed.] of the Fellows has contributed to the building fund. In the hope that the others will see their way to do so, I have been asked to make this appeal. If every Fellow would kindly forward a contribution, some giving more and some less, the desired object would be attained, and the anxiety of the Council on this point at an end. J. H. W. SCHRÖDER, 145, Leadenhall Street, London, E.C., December 7, 1903.

"BOTANICAL MAGAZINE."—The December number of this periodical, in the editorship of which Mr. W. B. HEMSLEY, F.R.S., is now



FIG. 161.—CYPRIPEDIUM GLAUCOPHYLLUM, SHOWING HABIT.

felicitously associated with Sir JOSEPH HOOKER, contains coloured illustrations and descriptions of the following plants:—

Meryta Denhami, Seemann, tab. 7927.—This is the *Aralia reticulata* of gardens, and said to be used as a stock whereon *Aralia Veitchii* is grafted. It is a small tree with sparingly branched stem, alternate, multiform leaves, the adult leaves large, glabrous, oblanceolate. The greenish-yellow flowers are in panicle heads. It is a native of New Caledonia and the New Hebrides, and has flowered repeatedly at Kew.

Agapetes Moorei, Hemsley, tab. 7928.—A Sikimese shrub with sub-verticillate, oblong, lanceolate leaves and axillary racemes of cylindrical, reddish flowers, the reflected tips of the five-corolla lobes being yellow. Each flower is about 1½ in. long. It is a handsome greenhouse shrub introduced to Glasnevin.

Echidnopsis somalensis, N. E. Brown, tab. 7929.—A succulent plant, native of Somaliland, with erect, cylindrical, fleshy, leafless stems covered with somewhat four-sided, flattened prominences. The flowers are rather inconspicuous, and in structure related to *Stapelias*. Cambridge Botanic Garden.

Restrepia antennifera, Humboldt, Bonpland, and Kunth, tab. 7930. This Colombian Orchid is often confounded with *R. maculata*, which has spotted flowers, whilst the present species has the perianth segments striped.

Cotyledon undulata, Haworth, t. 7931.—A handsome succulent shrub, 2 to 3 feet high, with tufted, wedge-shaped, glaucous leaves, irregularly toothed on the upper border. Scape erect, about 3 feet high, bearing a loose, drooping panicle of cylindric yellow flowers; the five lobes of the corolla reflexed, rose-pink in colour. The specimen figured was received from the Cambridge Botanic Garden.

ITEA ILICIFOLIA.—Lord KESTEVEN writes as follows concerning the plant lately figured in the *Gardeners' Chronicle*:—"Itea ilicifolia, of which I enclose you a specimen, has been growing here (Lincolnshire) in the open for at least fourteen years. It is sheltered on the north and east by other shrubs, and seems quite hardy. It was raised from seed sent from China by Dr. HENRY.

MR. WORTHINGTON SMITH.—We learn from the *Journal of Botany* that this gentleman has been elected President of the British Mycological Society.

EXHIBITION CHRYSANTHEMUMS.—There is an article by a correspondent of the *Revue de l'Horticulture Belge* for the present month which should be read and pondered over by the "megalanthogenetic" admirers of the huge monstrosities so much in vogue at the present day. The writer condemns the heavy, expressionless flowers as destitute of poetry and sentiment, appealing to the eye rather than to the intelligence or the heart. We need not repeat all the derogatory epithets which Mr. X. hurls at the "Japs," because, while we agree in a measure with him, we think he overlooks the value of these superb flowers when massed in vases and used for decorative purposes on a large scale. Exhibited on boards, combed and dressed, they are as ugly and unsympathetic as—Roses similarly treated, and almost as ridiculous as Carnations throttled in paper collars.

THE GREAT MASTERS.—We have already spoken in high terms of the series of "photogravures" from old pictures now in course of publication by Mr. HEINEMANN. Successive parts do but give occasion for further eulogy. The masterpieces of GAINSBOROUGH and ROMNEY, FRANK HALS and REMBRANDT, GHIRLANDAJO and BOTTICELLI, RUYSDAEL and RUBENS are put before us with a fidelity that is quite wonderful. In the last part there is a landscape by RUBENS which will surprise many who are not familiar with RUBENS as a landscape painter. The picture, though so different in subject from what we are accustomed to see from the great master's brush, nevertheless shows the same general characteristics, and is effective and "stagey" rather than natural. Never has a series of such beautiful reproductions been offered at so low a price, and the pictures selected have the additional advantage of not being hackneyed.

"NEW LESSONS IN ELEMENTARY BOTANY."—Our correspondent, Dr. TOKUTARO ITO, has published a handbook bearing the above title, and printed in Japanese. Even to those unable to read the letterpress the illustrations will be of interest, for they are novel in character, delicately drawn and reproduced. The frontispiece is coloured, and shows a Japanese alpine landscape and some of the flora peculiar to such a situation. We notice among the illustrations the representation of the flower of a single *Camellia* with five petals only. If correctly drawn this is a very unusual circumstance.

PRESENTATION TO MR. ROBERT SYDENHAM.—Mr. ROBERT SYDENHAM's services in connection with the cult of the Carnation and Picotee were recently emphasised in felicitous fashion at the Colonnade Hotel, Birmingham, when, on behalf of the Midland Society, Mr. SYDENHAM was presented

with a handsomely-illuminated address in album form, containing portraits of all the Carnation specialists in the country. In the unavoidable absence of Professor HILLHOUSE, owing to ill-health, Mr. W. H. PARTON, jun., presided, and he was supported by numerous representative men. Professor HILLHOUSE, in an appreciative letter, wrote:—"I do not believe there is any one man to whom, in the last fifteen years or so, the lover of flowers owes more than to ROBERT SYDENHAM. His name is a household word to all bulb growers, and he has made such by thousands, where probably, but for him, they would never have existed. I should like to speculate upon the aggregate amount of brightness he has been instrumental in adding to our English homes." In making the presentation, Mr. PARTON, after emphasising Mr. SYDENHAM's whole-hearted enthusiasm on behalf of the Society, offered him a hearty welcome on his return from a South African trip in search of health, and hoped he would continue to take an active interest in the well-being of the institution which owed so much to his fostering care. Mr. SYDENHAM, in the course of his response, promised to do all he could to maintain the high position the Society had gained. Mr. HERBERT SMITH, the retiring hon. secretary, was at the same gathering presented with a photographic group of Carnation specialists, in recognition of his labours on behalf of the Society for several years.

"THE FLORA OF EUROPE."—Dr. MOUNER has rendered a service by publishing a French version of his *Excursions Flora* under the title of *Flore Analytique de l'Europe* (Paris: BAILLIÈRE; London: WILLIAMS & NORGATE). It is an analytical key to all the genera of flowering plants known to occur in Europe. It is a small volume of 322 pages, and may be, we hope, the precursor of a similar but necessarily much more voluminous work on the species.

DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—On the occasion of the meeting of the Floral Committee on November 25, 1903, First-class Certificates were awarded to *Lælia Jonghi* var. and to *Odontoglossum crispum* var. as important plants for the trade, both from Mr. W. C. BARON VAN BOETZELAER, at Maartensdijk. Certificates of Merit were granted to *Dianthus plumarius* (new variety), from Mr. A. SFAARGAREN, at Aalsmeer; to *Cattleya Mendeli* var., as an important plant for the trade, from Mr. P. W. SUTORIUS, at Baarn; and a Botanical Certificate to *Lælia Perrinii irrorata*, as an insufficiently known plant, from Mr. C. J. KIKKEERT, at Haarlem.

MR. CHARLES HARDING, chief foreman in the Royal Gardens, Sandringham, is leaving there to become gardener to the Marquis of HERTFORD, Ragley Hall, on January 1. Mr. HARDING has been eight years at Sandringham, and for six years has filled the position of chief foreman under Mr. MCKELLAR, and latterly under Mr. THOMAS H. COOK.

STOCK-TAKING: NOVEMBER.—Since the issue of the last *Trade and Navigation Returns* sundry disturbing elements have been at work, all the effects of which cannot as yet be readily calculated; we may just mention affairs in Japan and Manchuria—Corea dates further back in time—the extension of commerce in Tibet under the auspices of the War Office, the horrors in Macedonia and in the Congo regions, where harvesting is stated to be carried on by the help of the military in a way not conducive to the peaceful extension of the agricultural interest. All these things are interfering with the course of trade, which not all the prophecies respecting 1904 can round off into satisfaction. But for all this—and the disturbed political outlook—the returns for the past month are satisfactory. The "plus" in the imports for November is £3,605,535, thus

achieved:—November, 1902, tots up at £45,118,056 against £48,723,591, for the same month this year. The "summary" table for the past month yields us the following figures:—

IMPORTS.	1902.	1903.	Difference.
	£	£	£
Articles of food and drink—duty free	9,121,544	9,709,810	+588,266
Articles of food & drink—dutiable	9,537,464	11,073,932	+1,536,468
All other Imports...	26,459,048	27,939,819	+1,480,771

Cutting down timber greatly affects the atmospheric conditions of the country where the operation is conducted, the political atmosphere is stated to be greatly affected by an attempt on the part of highly-placed Russians to acquire enormous tracts of forest land in Corea; but the end is not yet. As Christmas-time is on us, our table in connection with fruits, &c., is of more than usual interest. The figures are as follows:—

IMPORTS.	1902.	1903.	Difference.
	Cwt.	Cwt.	Cwt.
Fruits, raw—			
Apples	608,156	1,083,180	+477,024
Bananas ... bunches	250,410	224,261	-26,149
Grapes	68,241	127,397	+59,156
Lemons	86,587	44,579	-42,008
Nuts—Almonds ...	29,107	38,529	+9,422
Others used as fruit	124,937	171,220	+46,283
Oranges... ..	386,046	293,202	-92,844
Pears	24,177	18,695	-5,482
Plums	1,527	1,187	-340
Unenumerated ...	9,996	16,077	+6,081
Vegetables, raw—			
Onions ... ..bush.	712,599	779,116	+66,517
Potatos ... ..cwt.	419,661	2,042,897	+1,623,236
Tomatos... .."	23,232	40,331	+14,099
Vegetables, raw, unenumerated ...value	£21,739	£27,314	+£5,575

Apples loom largely in the total, and a splendid sample many of the varieties present. It is to be noted that the authorities in New Brunswick are preparing to extend the area under fruit. Each county in the province is to have a model orchard subsidised by Government, six of these to be set to work at once. Evidently "there's money in it." Still, it is repeated in connection with the importation of Asparagus from South America that it resembled too much the first lot of vegetables from Northern Italy some years since—there was no profit in that. To sum up our imports notes, it appears that these amount in value to £490,603,123 for the past eleven months, against £480,762,264 for the same period in 1902, or a gain of £9,840,859. In the matter of

EXPORTS

there is again a falling off to note. In face of the many drawbacks patent to every attentive reader of the daily journals, this reduction is easily understood. The exports for the last month amounted to £23,037,793, against £24,648,238 for the corresponding period last year—a reduction of £1,610,445. The figures for the past eleven months are £266,277,778, against £259,283,740—a gain of £6,994,038.

EDINBURGH SEED TRADE ASSISTANTS held their ninth annual dinner in FERGUSON & FORRESTER'S, 129, Princes Street, on Friday night, the 4th inst., at 7.30 o'clock, Mr. D. W. THOMSON, of 113, George Street, in the chair. No more popular chairman could have been found, and under his able direction the success of the meeting was assured from the very beginning. After the loyal toasts had been cordially pledged, Mr. J. W. M'HATTIE, the city gardener, proposed the toast of the evening, "The Seed Trade Assistants." In doing so he said the seedsmen of Edinburgh

had for many years done very great work in regard to horticulture. They were engaged in a very important trade, and it was for them therefore to do all they could to advance the work begun by their ancestors, and to place it, if possible, on a much higher footing. Horticulture advanced very rapidly during the reign of the late Queen, and he was pleased to learn that His Majesty King EDWARD was now having the garden at Windsor laid out in a manner that would make it second to none in Europe. Mr. A. SCOTT DENHOLM, in responding for the assistants, said that it was very gratifying to see so many of the principals present. Other toasts followed, including that of "The Nursery and Seed Trade." The musical part of the programme was well sustained by the assistants and their friends. Fraternal greetings were received during the evening from London and Dublin, and were duly appreciated in the Scottish capital.

SANDRINGHAM.—During the Royal parties that have taken place at Sandringham recently, the gardens have been very gay. Begonia Gloire de Lorraine, in three span-roofed houses, has been a special feature, some of the specimens being nearly 4 feet high and 3 feet through. Of winter-flowering Carnations there is a splendid show. For use in decoration there were cut in one evening as many as eighteen dozen good blooms of the variety Duchess of Devonshire. The variety Winter Cheer has been equally satisfactory; many of the plants that were rooted last January, and are now growing in 6 and 7-inch pots, having produced as many as fifty flowers. Other attractions have included Chrysanthemums, Mignonette Sutton's Giant in 10-inch pots, a house of Heliotrope Madame Bussy, a collection of zonal Pelargoniums, Cattleyas, Oncidiums, and Cypripediums.

HERBERT SPENCER.—The daily papers naturally occupy much space with the record of the work of the great philosopher lately taken from us, and who has done so much to familiarise the idea of gradual progression, or "evolution," and to apply the doctrine to almost every department of knowledge. It is not so generally known, however, that Mr. HERBERT SPENCER made some important personal contributions to vegetable morphology and physiology. His views on the causes instrumental in securing the ascent of the sap and the formation of wood were founded on the practices of fruit cultivators. Mr. SPENCER was at one time an occasional contributor to the *Gardeners' Chronicle*. It is with some complacency that we quote from a letter received from him many years ago, in which, alluding to a review of some of his work, he added: "It unites exposition and discussion just as the writers of such notices should unite them, but very rarely do. . . . You will find a brief reference to the action of natural selection as tending to establish the spiral structure in the way you have indicated."

PUBLICATIONS RECEIVED.—*Agricultural Bulletin of the Straits and Federated Malay States*, Sept. Contents: Turf and Fodder Grasses, Planting in Selangor, &c.—*The Agricultural Journal of the Cape of Good Hope*, October. Contents: Legislation to exclude Plant Pests, Tree Planting for Timber and Fuel, Irrigation and its results, &c.—*Agricultural News* (West Indies), October 24. Contents: Conservation of Soil Moisture, Sugar, Cotton, &c.—*Journal d'Agriculture Tropicale*, October 31. Contains articles upon Multiplication of Palauquium Gutta, Sorgho Beer of the Matabeles, &c.—*Nature Notes*, November.—*Mushroom Growing and Spawn Making*, J. F. Barter, Napier Road, Wembley, Middlesex.—*Essex Field Experiments* (Essex Education Committee), 1898-1903; No. 2, On Tillage Crops, T. G. Dymond and B. W. Bull.—From the Secretary of the Bradford Botanical Garden: Report of Advisory Committee. "The Bradford Botanical Garden arose out of a visit made last year to the garden of Mr. S. Margerison, of Calverley, by the Chairman of the Parks Committee and other gentlemen." The Parks Committee decided upon the formation of a similar garden to that visited, and this has been started, and though not yet a year old

has made a most promising beginning.—*Continental State Aid for Agriculture*, by T. S. Dymond (County Technical Laboratories, Chelmsford). A paper read at a meeting of the Fabian Society. The most valuable aids that can be given to agriculture by the State appear to be those connected with technical instruction and education.—*Rock Phosphates and other Mineral Fertilisers: their Origin, Value, and Sources of Supply*, by Charles Chewings (South Australia). "The object in writing those parts that have direct reference to agriculture, horticulture, &c., has been to afford those who are practically engaged in the use of the products made from the deposits described, the benefit of my researches, both theoretical and practical. Since mineral fertilisers have been systematically used in South Australia, the commercial aspect of agriculture as an industry has obtained a new lease of life."—*Journal of the Department of Agriculture of Western Australia*, October, 1903. Full of notes on crops and farm-stock generally.—*Report on the Cultivation of Rubber, Cocoa, and other Agricultural Products in Ceylon*, by W. H. Johnson, Head Curator of the Botanic Stations in the Gold Coast. "From the experience gained during five years, I have no hesitation in recommending that large plantations of Para Rubber-trees be formed on the Gold Coast by the Government." Mr. Johnson pays a high tribute to the progress made in agriculture in Ceylon, and ascribes much of its present prosperity to the cultivation of Tea.—*The Forest Flora of New South Wales*, J. H. Maiden, Part IV.—*A Critical Revision of the Genus Eucalyptus*, J. H. Maiden (New South Wales), Part III.

HOME CORRESPONDENCE.

EUPHORBIA (POINSETTIA) PULCHERRIMA.—

The season for these brilliant bracts being with us, it seems a suitable time to draw the attention of growers to an idea which appears to exist, and which I have heard expressed, to the effect that soils play an important part in giving a greater degree of brilliancy in the bracts. I am of opinion that this is not so, as here we have the two shades (very distinct) growing in the same soil and under exactly the same conditions. Some years ago I saw a batch of the paler variety (not the white) in Lincolnshire, when I quite made up my mind that what I had heard about the soil must be correct, until I took charge and grew the plants here. J. Snell, gr., Farnley, Otley.

THE STRAWBERRY GRAPE.—I have read Dr. Bonavia's remarks on the Strawberry-Grape in a recent issue of the *Gardeners' Chronicle*, p. 348, with great interest, inasmuch as I grew the variety whilst I was at Longford Castle, in Wilts, and in which gardens the Strawberry-Grape had been cultivated (and ultimately lost) years before I took charge, when, at the request of Jacob, fourth Earl of Radnor, I re-introduced the Grape, and fruited it every year afterwards during the interval of time indicated above. The Vine was planted at the foot of the back wall (facing due south) in No. 3 vinery, and was trained up under the hip-roof, extending the lateral growths the second year after planting on either side along a wire trellis. The Vine is a free grower, and bears prodigally small dumpy bunches of a bluish-black colour when ripe, and carrying a fine bloom. The bunches—or, at least, the berries constituting the individual bunches—were thinned well out, with the result that those that remained attained to the size of an ordinarily thinned Black Hamburg Grape. The fourth Earl of Radnor, his Countess, and all the members of his family were very fond of the Strawberry-Grape, and I extended the supply for as long a period as possible. Lord Radnor's guests had frequently asked me for information respecting that "most distinct and highly-flavoured Fox-Grape," this being the name under which the Grape in question was known at Longford, it having been, as I was told, introduced to British vineries from America by a gentleman of the name of Fox, who was at the time English Ambassador at Washington. The characteristics of the Strawberry or Fox-Grape are strikingly distinct from all other Grapes that I am acquainted with, not only in bunch, berry and flavour, but also in habit of growth, colour of wood, size, shape and colour of foliage. I inarched a shoot of the Strawberry Vine on a Black Hamburg Vine, also growing against the same wall, with the desired result, namely, the obtaining of somewhat larger bunches and berries without in any way altering the flavour for the worse, but rather the reverse. I should think an improvement in the flavour of

such Grapes as Gros Colmar and Gros Maroc might be effected by fertilising a bunch of each of those varieties when in flower with pollen taken from the Strawberry-Grape, tying a string to each bunch so fertilised, taking out and sowing the seeds in due time, and planting the canes resulting therefrom. In conclusion, I beg to say that Dr. Bonavia's remarks regarding the fact of market-gardeners not being willing to take up the culture of any kind or variety of fruit that is not known and will not sell immediately, are fair, sound and thoroughly practical. H. W. Ward, Lime House, Rayleigh.

BLUEBOTTLE FLIES AND GRAPES.—These insects are usually very destructive to Grapes and ripe fruit generally, and never before have I observed so many of them. They have destroyed and eaten Grapes in a wholesale manner. When visiting a neighbouring gardener I saw a vinery of ripe Muscats, of which quite half the berries in each bunch had been destroyed. Had it not been that we had ours in Grape-nets, even thick-skinned varieties as well as others would have been spoilt. J. Snell, gr., Farnley, Otley.

SPECIAL CULTIVATION OF CARNATIONS.—In reference to the article on special culture of Tree Carnations in your issue of the 21st inst., I ask, Do disbudding and stopping constitute special culture, as the writer alleges? I maintain that Chrysanthemums that are stopped and disbudded, even if not to obtain show blooms (as most gardeners and amateurs do), must also be grown under special conditions; therefore, according to the writer of the article, they are also out of reach of the private gardener. It is a mistaken idea that the Tree Carnation requires a particularly careful or special treatment. A house or conservatory having good light and ventilation, and where a temperature of 45° to 50° can be maintained at night through the winter months, makes an ideal house; and it will grow successfully most greenhouse plants which do not require too high a temperature or too moist an atmosphere. The stopping is a very simple operation, and it is done as soon as the young plant is established in the small 60-pot; and any other shoots that run to bloom are stopped till about July 10. Disbudding is simpler still: leave only the crown bud, removing all buds and shoots till the length of stem required is obtained. Under these conditions twelve to twenty-four long-stemmed blooms can be cut from a plant during the twelve months, thus affording a larger cut than from most greenhouse plants requiring the same space, and no more skill or attention. Even if the writer himself has been unsuccessful in his attempts to grow Tree Carnations, he should not lay down the law for the general public, or be prejudiced against the American Tree-Carnation, which I exhibited this season, and caused a sensation amongst Carnation-lovers. Perhaps I am the wrong person to give praise to the Tree-Carnation, as I may be charged with being prejudiced in its favour; but when such incorrect statements are made as by the reviewer of the book on Carnation-growing, and again by the writer of the article, I must take up the cudgels on its behalf. Then, again, the writer is wrong in comparing the blooms I exhibited (grown under normal conditions) with the show Chrysanthemum blooms, which are only obtained with much greater care and attention than are bestowed on the finest Tree-Carnation with perfect stem and calyx, and give a much smaller cut than a house of the same size with Tree-Carnations. It is absurd to say my results have been obtained because of the thousands I grow. Surely it is as simple for a private gardener or amateur to grow his few as it is for me to grow thousands for profit. When each of my men has to manage 8,000 plants, he can have none too much time to give them individually the care and attention the writer imagines they require. A. F. Dutton.

A FEW GOOD VARIETIES OF STRAWBERRIES.—Under the above heading in a recent issue your correspondent, W. C. Leach, mentions Givons Late Prolific as being inferior in flavour to Waterloo. Perhaps, as the raiser of the former, you will allow me to say a few words to uphold the reputation I gave it when putting it before

the public. I believe it is a well-known fact that varieties of Strawberries (like some other kinds of fruits) succeed in some localities and fail in others; and considering that it was only put in commerce in the autumn of 1901 (and then only in a limited quantity) I think it rather premature to condemn it for its flavour, especially after the past wet season. I still maintain that it is superior in flavour, constitution, and cropping qualities to its parent, Waterloo. In this opinion I am backed up by the Royal Horticultural Society's Fruit Committee, who, in 1901, gave it an Award of Merit, and in 1902 gave it a First-class Certificate (vote unanimous). Until now I have received nothing but praise for my introduction, and in support of this I may say one large fruit-cultivator in the Midlands who tried it last year asked me to supply him with 10,000 runners this season. The variety Waterloo is not unknown to me, as when residing at Latimer some twenty years ago I helped to raise the stock of this variety; and I must say that I have only once observed a heavy crop on it, and that was at my neighbour's, Mr. Higgs, of Fetcham Park. Here, neither Waterloo, Laxton's Latest-of-All, nor any of the late varieties that I have tried have I been able to grow with any success, but Givons Late flourishes; and I believe when better known it will be grown largely, if only for the one reason that, flowering very late, it misses the spring frosts, as it certainly did this season when other varieties here were very hard hit. W. Peters, gr., Givons Gardens, Leatherhead.

THE MALMAISON CARNATION.—I accept the friendly remarks of H. Humphrey in the same kindly way in which he has evidently written them, but I would like to point out that, when advocating the dusting with lime or sulphur on diseased plants of this variety, I had in view just a plant here and there that may be affected with this horrid "rust," it not having fallen to my lot to see a whole house in that state. As regards sulphur or even lime on a few plants being objectionable, it can be no worse than when Roses are dusted with flowers-of-sulphur to stamp out mildew, which most of us know has done its work under twenty-four hours, when the plants can be laid on their sides and the sulphur removed with the syringe, an item which I omitted to mention in my Calendar for November 21. James Mayne.

MONARCH PLUM.—You do well in calling attention to this grand variety, its free-cropping and noble size commending it to all engaged in hardy fruit culture. The fruits when fully ripe are not to be despised for the dessert-table, and it carries a beautiful bloom when carefully handled. Large fruits of this variety fetched 2d. a-piece this autumn at Sidmouth. There is surely a slip of the pen where it says that two maiden trees, only planted last autumn (1902), yielded 12 to 14 lb. of fruit each this year, it being the usual method to cut such trees back to within a foot of their union the spring after planting. James Mayne.

NOVEMBER MELONS.—As a general rule, Melons so late in the year as November are seldom of high flavour, owing to lack of sunshine, and they are regarded more as ornamental than for consumption. At Longleat, Mr. Gandy has beaten all previous records in late Melons; though for years past Longleat has been famous for this fruit. In the present instance, Mr. Gandy, by choosing a suitable variety and method of cultivation, has provided a quantity of fine fruits, which have been greatly enjoyed by the visitors. The variety Veitch's Late Perfection is a comparatively new Melon, handsomely shaped, evenly and regularly netted, and has a deep-green flesh and rind. The fruits range from 4 to 6 lb. apiece, and are as well flavoured as a summer Melon. W. S.

A GARDENERS' ASSOCIATION.—Mr. Upstone is not very merciful to the Council of the Royal Horticultural Society in suggesting that amidst all its existing heavy responsibilities it should burden itself with the work of forming a National Association of Gardeners. If such a body is formed ultimately, it can only arise from gardeners, who alone can know what objects it may be desired to gain. The Council of the Royal

Horticultural Society is not a body of gardeners, although in full sympathy with gardeners' needs and aspirations. I have not understood from anyone so far that he thinks the production of gardeners should be severely restricted by an association. That seems to be the desire and panacea of one writer last week. What is desired is that young men should strive to become very practical and intelligent gardeners. If there be fewer places than applicants ready to fill them, a problem is presented that no association, I fear, can solve. Perhaps if the inefficient were knocked out there would be no surplussage. A. D.

GRAFTED ROSES.—With reference to the reply of "J. D. G." to my criticisms, I still adhere to my former statement. In substantiation of same, I quote from Miss A. Dorrance (*Royal Horticultural Society's Proceedings*, December, 1902,) the following:—(1) "Rules of John H. Dunlop, of Toronto. First seven days keep the case closed tight, but if the moisture is too great, or if there is too much condensation, give a small crack of air. On the eighth day give $\frac{1}{2}$ -inch of air, and gradually increase, until nineteenth day give full air." (2) "Ribes" rules from *Florists' Review*. "First eight or ten days, or until the majority of the scions are united . . . During this period it is a good plan to open up the frames morning and evening to change the air; it does no harm unless left open too long." Both of these authorities endorse my contention, and it is with regard to the first week that I laid particular stress. The fusion of graft and stock by the formation of the callus cells is certain to be dangerously impeded by the drying of the atmosphere (for a few hours). In conclusion, my personal experience has been gained in a London nursery, which answers in a peculiar way to the one "J. D. G." mentions, and the successful seasons in the propagating-houses justified the treatment I recommended. C. E. F. Allen.

NEW VARIETIES OF THE POTATO.—A few years ago I took a great interest in Potatoes, and know that it requires much patience to get good results. The majority of seedlings, often obtained after years of waiting, are not always as good as one could wish. Syon House Prolific, a variety certificated some years ago, was the first of the seedlings, and is one of the best late Potatoes we have, a heavy cropper, of good quality, and handsome. English Beauty is an early variety, the result of crossing the Ashleaf with an American variety, with the intention of getting greater size together with earliness and the quality of the Ashleaf. Main Crop is another cross that resembles Syon House, but is earlier and rounder, and valuable as a mid-season Potato. Northumbria is a mid-season variety which was certificated by the Royal Horticultural Society last year, and is not as yet in commerce. This variety has good eating qualities. Early Gem, a Potato certificated at the Royal Horticultural Society's garden this year (August); an early variety that will, I think, be an acquisition; it crops well, and is of excellent quality. G. Wythes.

THE WHITE NERINE.—There cannot be two opinions about the beauty of this charming plant now flowering with me, but its correct name seems to be still undecided. Introduced from South Africa, I believe, by Mr. Ware, in 1893, it has been distributed under the name of *N. elegans alba*. Messrs. Barr & Sons, who also imported it from the Cape, exhibited it last year at a meeting of the Royal Horticultural Society as *N. flexuosa alba*; and this year it is catalogued by Messrs. Haage & Schmidt, of Erfurt, as *N. sarniensis alba*. *Nerine elegans* being a hybrid (*N. flexuosa* × *N. [sarniensis?] rosea*), probably raised in England, that name is surely incorrect. For the same reason we may dismiss the name *N. sarniensis alba*. Messrs. Barr's name is certainly nearest; *N. flexuosa*, however, has a centripetal umbel, while the white *Nerine* is centrifugal. I regret not having been able to compare the two plants this autumn. I append a short detailed description of the plant, to the best of my slender botanical knowledge, hoping this note may help to raise the question of according this beautiful *Nerine* specific rank. Bulb, 1 to 2 inches in diameter; leaves, shining, light green, 5 to 8 to a bulb, well developed at

flowering time, over a foot long, channelled down the centre, and widening in the middle. Peduncle 15 to 18 inches high, round or a little compressed, slightly glaucous. Spathe valves about 1 inch long. Pedicels $\frac{1}{2}$ to $1\frac{1}{2}$ inch long. Flowers pure white, of medium size, eight to twelve in a centrifugal umbel (i.e., inner buds opening first), mid-rib of segments green when in the bud, but becoming pure white. The perianth irregular, segments wavy at the edge and recurved, forming a semicircle above the white declinate stamens and style, occasionally one segment remains below the filaments. Style, as long as or shorter than the stamens. Capsule globose, deeply three-lobed. Seed and off-sets freely produced. W. E. Ledger, Wimbledon. [Messrs. Barr & Sons' plant was, we believe, named at Kew, where this white *Nerine* is cultivated as *N. flexuosa*, var. *alba*. Ed.]

VIOLET MARIE LOUISE.—May I say just a word in praise of an old favourite Violet? Seeing that now there are so many new varieties at our service Marie Louise is apt to be sometimes relegated to a back place. This is a great pity, for I do not know of any new variety which can surpass Marie Louise, when well grown, for all-round qualities. It comes into bloom in September, and flowers very abundantly till late in the month of April, is very hardy and quite easy to manage. Now I often hear it said that Marie Louise would be all right were it not for its very short stalks, so I have enclosed a few just to let you see that its stalks may be grown to 7 inches or more, and carry a flower $1\frac{1}{2}$ inch across. Robert E. Clapham, gr., Bywell Hall, Stocksfield-on-Tyne.

NOTICES OF BOOKS.

BEAUTIFUL AND RARE TREES AND PLANTS.

With seventy illustrations from photographs taken at Castlewella by the Earl Annesley. (Country Life Office.)

Readers of the *Gardeners' Chronicle* interested in trees and shrubs will be familiar with the notices and illustrations that have from time to time been given of the beautiful and interesting subjects collected at Castlewella, in County Down, Ireland. The Earl, moreover, contributed to a recent number of the *Journal of the Royal Horticultural Society* an annotated list which excited much attention among those devoted to the culture of similar plants. It is therefore very satisfactory to find these notes expanded and collected into a handsome quarto volume, richly illustrated by photographic reproductions by the author. "Whenever I read in the gardening papers the description of a new plant (which by the way is generally conveyed in technical language totally unintelligible to the general public)," we quote from the preface, "I always want to see a photograph of it; one glance at that is quite sufficient, and tells me all I want to know about it. I hope, therefore, that these photographs may be of some interest to many people who are fond of their gardens. I may add that they were all taken in the garden and pleasure grounds at Castlewella."

Unfortunately and inevitably, the conductors of gardening papers, in their desire to chronicle novelties, are generally obliged to draw up their descriptions from imperfect specimens, and it is frequently not till long after their introduction that it is possible to frame a more satisfactory notice. The technical details no doubt are repulsive to the general reader, but they are essential for the botanist, who otherwise would be quite unable to form a correct idea of the plant in question. Moreover, we invariably find that those who really "want to know" are those who are least offended by these technicalities. Clearly, then, the course to follow is, so far as possible, to give all parties what they want, and to put in a foot-note, or in small type, the details which are not needed by some, but which are all-important to others.

The illustrations in the book before us are mostly excellent, but are not arranged in any order, so that the reviewer may avail himself of that circumstance and comment upon the contents of this handsome volume with a similar disregard of conventional sequence. And here we may note the principal defect of the volume—the absence of detail. "The sun-picture," says the author, "must be absolutely true to nature." The italics are not ours, and we demur to the statement made under considerably qualified. How few varieties of Roses, for instance, can be recognised from photographs!

To further illustrate our meaning, we may mention a case which has lately occurred to ourselves. Two sun-pictures of noble-looking Conifers (not from Castlewella) were submitted for our inspection. We named them with becoming hesitation as being, the one a form of the Red Cedar, the other as a Silver Fir, *Abies nobilis*. The same photographs were shown to a number of cultivators and expert botanists, but with varying results, but none proved correct. To make sure, we procured specimens from the two trees, when the mystery was dispelled. The "Red Cedar" turned out to be a Deodar! and the *Abies* was found to be *A. concolor*. The "sun-picture" then did not tell the whole truth; it gave the effect, but the detail was concealed.

Even now that we know the truth these particular photographs are nearly as misleading as before, so that it is only by an effort that we can realise the truth. Illustrations showing the habit and general appearance of the tree require, therefore, to be supplemented by a sketch, or by some other means of furnishing the required detail. In the book before us, if the words "*Cupressus Lawsoniana*" were not attached to the plate we are by no means sure that we should not have considered it to be a *Thuja*, such as *T. gigantea*. *Sciadopitys verticillata*, on the contrary, is easily recognisable.

Before dismissing *Cupressus Lawsoniana*, we may suggest to Lord Annesley the desirability of obtaining a series of photographs of the very numerous varieties of the Lawson Cypress. These would be the more interesting as it is becoming obvious that some of the characteristics which mark the young plants are lost as youth passes into maturity. The absence of detail and in many cases of scale is felt, particularly in the case of *Lomatia pinnatifolia*, the native country of which is not known. We are told that it is even unknown to the authorities at Kew, Dublin, and Edinburgh.

Now, having exhausted our cries for "more," it is time to express our grateful appreciation for what we have and to call attention to the wonderfully interesting set of plants depicted in the book—plants interesting for their beauty, for their botanical structure, for their powers of accommodating themselves to the Irish climate. The reader in less favoured climes will be surprised to see the elegant *Nandina domestica* flourishing in the open ground and covered with flower. The figure of *Abies Veitchii* is very characteristic, and we are told that it produces cones in great profusion. *Plagianthus Lyalli*, and *P. betulinus*, *Pittosporum undulatum*, *eugenioides*, *Mayii*, and *Colensoi*, *Glyptostrobus heterophyllus* (if this be really the Chinese plant), *Eucryphia pinnatifolia*, *Cercidiphyllum japonicum*—these are among the plants figured. Their names alone are sufficient to attest their interest to the connoisseur. We should much like to extend our notice, but we can only find space for the mention of *Vitis Thunbergii*, which is spoken of as "probably the finest hardy climbing plant now in our gardens. In autumn they (the leaves) take on the most beautiful shades of yellow, brown, crimson, and even scarlet." The list of plants hardy at Castlewella, which is given as an appendix,

shows how extraordinarily rich the collection is. Great care has been taken in this index, and, indeed, throughout the book, in revising the proofs as misprints are remarkably few and far between. Altogether the book forms a valuable, beautiful, and interesting addition to horticultural literature, so much so that we end as we began, by asking for more, and give expression to the hope that the blank pages in the present edition may, in a second, be filled up by other photographs and other notes.

DICTAMNUS FRAXINELLA.

So much has been recently said in our columns with reference to this plant and its white variety,

SCOTLAND.

EDINBURGH ROYAL BOTANIC GARDENS.

FLOWERS IN BLOOM IN EDINBURGH ROYAL BOTANIC GARDENS. — Although the Edinburgh Royal Botanic Gardens have not the same facilities for growing and showing flowers attractive to the public as those of Kew, one can never visit them without seeing much to interest a lover of plants and flowers. In a couple of visits made a short time ago I took a note of the greater number of plants in bloom, and these may be of interest to others beside Northern readers. They may also help to increase the number of visitors to the Edinburgh gardens, which are always deserving of a visit from all

persoluta (with small white flower), the pretty *conspicua*, and the more curious *barbata major*. The pretty *Epacris rosea* and the handsome *E. Eclipse*, with fine red- and -white flowers, made up the plants in bloom in a small but attractive lot. A small group of the pretty purple-flowered *Monochætum ensiferum*, with flowers about 1½ inch across, was very pleasing; while the handsome *Ruellia macrantha*, with its *Incarvillea*-like blossoms, was most attractive. Then there was the pleasing *Correa ventricosa*, the attractive *Agapetes buxifolia*, and the bright *Coronilla glauca*. Even more worthy of notice was the fine *Impatiens cuspidata arthritica*, which was figured in the *Botanical Magazine* for 1902, and was very pleasing with its pretty pale-pink flowers and its silvery stem, interesting because



FIG. 162.—GROUP OF DICTAMNUS FRAXINELLA AT WISLEY.

(Photographed by F. Mason Good.)

and to the inflammability of the vapour given off from its foliage, as vouched for by Mr. Divers, that it is appropriate to give an illustration which will serve to show that the plant is not only interesting but also ornamental. Our illustration was taken by Mr. F. Mason Good in the garden of the late Mr. George Wilson, now the property of the Royal Horticultural Society.

PLANT PORTRAITS.

MESEMBRYANTHEMUM SPLENDENS, M. AUREUM, M. ECHINATUM, M. RETROFLEXUM. — *Revue Horticole*, Nov. 16. PEAR BERGAMOTTE DE TIREMONT. — Stated to be a first-rate Pear, like B. Esperen, and ripening from December to January. *Bulletin d'Arboriculture*, &c., November.

interested in plant life. Space is not too plentiful in the centre house, where there are always grouped some of the most attractive plants in bloom. The Chrysanthemum is not cultivated to excess, but a few plants here and in other parts of the glass structures would be interesting to many. Such useful ones as the single Miss Rose—a popular variety in Scotland—the old La Vierge, Abbé Pasche, the old Anastasia, and some of the Desgranges varieties in the shape of dwarf plants occupied a portion of the stages, while some of the large-flowered varieties were grouped elsewhere. A nice little group of Cape Heaths, now far too little seen, were very interesting, among them being *Erica grandinosa* (white),

of the varying thickness at each node. A few Acacias, such as *elata*, gave a pleasant variety with their feathery flowers of various forms. A plant of considerable interest, about which one would like to know more, is *Senecio Moorei*, from Glasnevin, of which there were several specimens. It must be closely akin to the florists' *Cineraria*, and it is a matter of regret that its origin is somewhat obscure.

A group of *Leptosyne gigantea*, with its Marguerite-like flowers and its fine leaves, and another of the old pale-blue *Agathma coelestis* formed the principal representatives of the Compositæ in the central house. There were also such plants as the pleasing blue-flowered *Dedala-*

canthus nervosus, the bright Reinwardtia tetragyna, and the bright yellow Calceolaria fuchsiæ-folia. There was a small group of Bouvardias, such as Priory Beauty, President Garfield, and Freelandi. Among the more popular flowers there were some zonal Pelargoniums, including such varieties as Hecla; with a number of Primula sinensis and the pretty P. floribunda, the latter showing the attractiveness of some of the original species, even when alongside the flowers which have been the subject of the florist's skill. Winter-flowering Begonias were also bright and good, though some of the newer hybrid forms are less amenable to cultivation here than such as Gloire de Lorraine. Although a little foreign to my title, one cannot but remark upon the pleasing contrast made by the small, dark foliage of a few plants — Centradenia inæquilateralis flanked on either side by the foliage of the green and white-leaved Abutilon Souvenir de Bonn, and by the silvery leaves of Artemisia argentea and ragusina. Nor must one forget, although perhaps also foreign to the heading of these notes, the noble plant of Restio subverticillatus, an object of admiration to most who visit these gardens.

In other parts of the establishment there were a number of other attractive and interesting plants. Thus, although not the season for the bulk of the Orchids, one could admire a number of fine spikes of the lovely Calanthe Veitchii, the ever popular Cattleya labiata and C. l. autumnalis, some good pans of Masdevallia tovarensis, Coelogynes Massangeana, Gardeneriana, aspersa, and the attractive C. (Pleione) Wallichiana. Those interested in the terrestrial Orchids would take notice of the easily-grown Stenoglottis longifolia, and among the curious plants of interest to many were specimens of the small and unassuming Scaphosepalum ochthodes. There were quite a number of Cypripediums, among which one noted Ashburtonia, villosum, Charlesworthia, Crossianum, Harrisianum, callosum, venustum, Haynaldianum, Leeanaum, insigne, and tonsum, many of which were represented by grand plants. Barkeria elegans, Sophronitis grandiflora, Lælio-Cattleya Decia, Cyperorchis Mastersii, some Den-drobes, Spiranthes, and others, made the Orchid-house additionally attractive.

One could well have spent more time in the stove, for such plants as the handsome Adhatoda cydoniaefolia displaying its fine white-and-purple flowers from the rafters could not fail to attract. On another rafter was Begonia President Carnot, while others of the race in flower were the handsome-leaved B. venosa, the white B. Ochottiana, and one or two others. There were many more Begonias not in bloom, and one could not but admire the fine metallic leaves of Gloire de Sceaux. Amasonia calycina was also in flower with its bright red bracts and long-tubed white flowers. There was also a nice group of Plumbago rosea, looking most pleasing with their warm red blooms; Epiphyllums were also gay, and various odds and ends would have enticed one to remain longer had time permitted.

In the economic-house the principal thing of interest was Protea neriifolia, a handsome plant which might with advantage be grown in private establishments.

The corridor, one of the most attractive parts of the establishment, had not much in bloom, although one noted Lantana alba, a few Fuchsias, Cestrum Smithi and elegans, Lantana Camara, Malvastrum grossulariaefolium, and the pretty Acacia aromatica.

In the interesting succulent-house there were not many plants in bloom, but these included Senecio Galpini, Euphorbia splendens, Kalanchoe flammea, and one or two Mesembryanthemums, such as curvifolium and serrulatum. On the rafters the Cape Senecio macroglossus displayed some of its pale-yellow flowers.

Time did not permit of a full examination of the Bromeliads, while the outdoor department had, as might be expected, comparatively little of special interest at the season of the year. However, at no time can one visit these gardens without pleasure and profit in the way of fresh knowledge of plants and their ways. I have again, as on previous occasions, to express my thanks to the members of Professor Bayley-Balfour's staff for their unfailing courtesy. S. Arnott.

FOREIGN CORRESPONDENCE.

STERILISATION OF SOIL.

I NOTE on page 344 of your November 14 issue, a reply to an inquirer in regard to sterilising soil. It may be of interest to state that there are few, if any, large market gardeners and florists in the United States who do not now sterilise all the soil used in the benches and beds of their greenhouses. I enclose you herewith a circular, on which the diagram of the patented machine mostly in use for this purpose in the States is shown. The circular gives a fair idea of the method of using and cost. It consists of perforated tubes, which are made of galvanised iron properly connected and covered, through which the steam passes. Earth is piled upon the tubes to the depth of 12 to 15 inches, and steam introduced by means of a connecting tube or pipe. With 12 inches of soil on the steriliser and 30 lbs. of steam pressure, the temperature of the soil may be raised to 210° in from fifteen to twenty minutes. The higher the pressure the quicker the work can be done. The machine can either be used out-of-doors or directly in the benches of the greenhouse. The ends of the apparatus are easily removed and the tubes drawn from the sterilised soil and reconnected at the next point. The apparatus is made with portable sections, rendering it very easy to handle and carry about. The ordinary length used is about 17 feet long and from 4 to 8 feet wide, but of course it could be made in any length or width desired. The steam for sterilising can in many cases be had direct from the greenhouse heating system, or it can be obtained from traction engines. Archibald Smith.

PLANT NOTES.

CONTINENTAL NOVELTIES.

SCOTTISH AUTUMN-FLOWERING STOCK: LILAC.

A BEAUTIFUL variety of the favourite Scottish Stock, growing about 1 foot in height, abundantly branched, and furnished with strong flower-spikes. The leafage is of a fresh green tint rare among Stocks, midway between the Wallflower and the Stocks. Good as a market plant, and for cutting and flower-beds.

DWARF SHIRLEY POPPY SNOW-WHITE.

A snow-white variety as yet not offered in separate colours. Some of the flowers pass from white to a very tender, pale pink tint. Remains in flower for a considerable length of time.

TROPEOLUM LOBBIANUM MINIATUM.

A hybrid with flowers of a lively vermilion colour; a distinct addition to the climbing varieties of Nasturtiums.

CHRYSANTHEMUM GOLDEAD (GOLD WHEEL).

An annual Chrysanthemum with convolute florets arranged spoke-wise round the disc. Colour golden yellow with a purple centre, very free, and good for cutting.

GODETIA WHITNEYI FULGIDA.

Flowers bright carmine-scarlet with white centre. Of middle height, compact habit, very free, and enduring a long time in bloom.

BEGONIA TUBEROSA HYBRIDA MARMORATA FLORE-PLENO.

Of Belgian origin. A stemmed plant with erect, large, very full flowers, brightly marbled and spotted. Foliage vigorous, and dark green in tint. Ernst Benary, Erfurt.

IRIS LACUSTRIS.

The author of the description of Iris gracillipes in the *Botanical Magazine* for November appears to be unaware that Iris lacustris is in cultivation, seeing that he makes a remark to that effect. It has, however, been in cultivation in this country for a considerable time, and it has been in my own garden for several years. It came to me first from Mr. W. B. Boyd, of Faldonside, Melrose. It is also offered in one or two catalogues of last and this years' dates. It is a neat and pretty little Iris, of much the same habit as I. cristata, but smaller in all its parts and with deeper lilac flowers. It is perfectly hardy, and a very desirable Iris for the rock-garden, where it will grow well with full exposure. S. Arnott, Carsethorn-by-Dumfries.

SOCIETIES.

NATIONAL CHRYSANTHEMUM.

DECEMBER 8, 9.—A meeting of the Floral Committee was held at 1 P.M. on Tuesday last, when First-class Certificates were awarded to the two varieties following:—

Incurred Souvenir de William Clibran.—This is a deep, large white flower of good form, with rather pointed florets, already in commerce. Shown by Messrs. W. CLIBRAN & SON, Altrincham.

Decorative Allman's Yellow.—This is a first-class decorative or market Chrysanthemum of the reflexed Japanese type. The colour is rich deep yellow, and the blooms when not thinned about 3 inches across, or when thinned 4½ inches. It is very free in growth and flowering qualities, and has stout stems that support the blooms in a perfectly erect position. Shown by Mr. THOS. ALLMAN, Rowhill Nursery, Wilmington, Dartford.

The last competitive exhibition for the present season under the auspices of the National Chrysanthemum Society, took place on Tuesday and Wednesday last in the Crystal Palace, Sydenham. It was not a large show, there being little competition in some of the classes, but the most was made of the exhibits forthcoming, and the disposition and arrangement of these by Mr. Richard Dean and Mr. Caselton, resulted in producing an effect of considerable attractiveness.

The single-flowered and other decorative types showed to best advantage, being brighter in colour and fresher in appearance, than large blooms of exhibition varieties, many of which looked as if they had been the round of the November exhibitions, and afterwards preserved to be shown again at this one.

The miscellaneous exhibits, which included some first-rate plants of Begonia Gloire de Lorraine, and other species were largely responsible for the general effect that was obtained.

The number of visitors on the first day was very small, notwithstanding that further attractions were afforded by an exhibition of cage birds held in the central transept.

BLOOMS SHOWN ON BOARDS.

JAPANESE VARIETIES.

The largest class for Japanese blooms at this late exhibition includes twenty-four specimens. There were two exhibits, and the 1st prize was awarded to Mr. J. Simon, gr. to W. W. MANN, Esq., Ravenswood, Bexley, Kent, for a collection of blooms of considerable size but rather dull in appearance, owing to some of the flowers having been developed some time. Some of the best were C. J. Mee, Mme. R. Cadbury, Mrs. E. Thirkell, Florence Molyneux, Duchess of Sutherland, Nellie Bean; and of older varieties Queen Alexandra, Mrs. F. Grimwade, and Mrs. J. Bryant. The collection awarded the 2nd prize was shown by Mr. G. Hunt, gr. to PANTIA RALLI, Esq., Ashstead Park, Epsom, and was brighter and, as some thought, more meritorious. He had two excellent blooms of the white incurred Japanese Dorothy Pywell; Bessie Godfrey was good, and several others of comparatively fresh appearance. The worst bloom was one of Lady Acland.

There were three exhibits of collections of twelve blooms, and the 1st prize was gained by Mr. W. Jinks, gr. to LEAR J. DREW, Esq., Knowle Green House, Staines. His varieties were Mrs. W. H. Whitehouse, Mrs. Barclay, Guy Hamilton, M. Louis Rémy, Madame P. Radaelli, Charles Penford, May Inglis, Mrs. F. Grimwade, and Mrs. Weeks; Mr. G. HUNT was 2nd; and Mr. J. SIMON, 3rd.

In the class for six blooms, Mr. W. JINKS obtained 1st prize with the varieties Mrs. W. H. Whitehouse, Mrs. Weeks, Mrs. Grimwade, May Inglis, Chas. Longley, and Mrs. Barclay; 2nd, Mr. W. G. PRUDDEN CLARK, York Road, Hitchin; and 3rd, Mr. A. Shipway, gr. to R. C. FOSTER, Esq., The Grange, Sutton, Surrey

INCURRED.

There were two exhibits of collections of twelve incurred blooms, in not fewer than six varieties, Mr. G. HUNT winning the 1st prize. Both exhibits were good. Mr. HUNT's flowers were Mdlle. Lucie Faure, Frank Hammond, King of the Orange, Miss E. Seward, Mrs. J. Eadie, The Egyptian, and May Bell; 2nd, Mr. J. SIMON, whose best blooms were Frank Hammond and Snowdrift.

BLOOMS SHOWN IN VASES.

The largest class for blooms shown in vases, including twenty-four bunches, any section, not fewer than three of one variety only in a bunch, with at least 6 inches of stem showing above the vase, is a most exacting one in December; and as exhibitors seem to think they stand the best chance when they can put up large blooms of the exhibition kinds, the display they make is not so attractive as it might be made. The 1st prize was awarded to a collection from Mr. HUNT, which consisted of popular varieties.

In the following class for twelve bunches of Japanese, in not fewer than six varieties, Mr. G. J. HUNT was again awarded a 1st prize, his varieties including C. J. Mee, G. J. Warren, Madame Carnot, C. J. Salter, Mrs. J. Bryant, and Dorothy Pywell.

SINGLE-FLOWERED VARIETIES.

In a class for six bunches of large flowered single varieties Mr. W. C. PAGRAM was 1st with a pretty exhibit, in which the following varieties were included: Edith Pagram, lilac, with white band, round disc; Sylvia, yellow and bronze; Golden Star, yellow; Framfield Beauty, crimson, marked with yellow; Duchess Elizabeth, yellow; and Mrs. Roberts, white.

Mr. W. C. PAGRAM had also 1st prize for the small-flowered single varieties, showing Madge, Mrs. Langtry (white), Scarlet Gem, Cannell's Gem (purple), Terracotta, Oxeye (white).

DECORATIVE, SPIDERY, THREAD-PETALLED, OR PLUMED CHRYSANTHEMUMS.

In this class the 1st prize was won by Mr. Charles Brown, gr. to R. HENTY, Esq., Langley House, Abbots Langley. His varieties were Cannell's Favourite (white), Arab (red), Sam Caswell (lilac), and Mrs. Filkins (yellow). They were all very pretty, and arranged in vases amidst plenty of natural foliage, had a good effect. 2nd, Mr. W. C. PAGRAM, gr. to J. COURTENAY, Esq., The Whim, Weybridge, who had different varieties in Cheveux d'Or, yellow; Mrs. W. Butters, white; Houpe Fleuri, yellow with florets tipped red; King of Plumes, yellow; and Jitonjetui, purple; 3rd, Mr. A. TAYLOR, 5, Vernon Terrace, East Finchley. These exhibits were amongst the brightest coloured in the show.

SMALL FLOWERED POMPONS.

The only exhibit of six bunches of small-flowered Pompons was staged by Mr. W. C. PAGRAM, the varieties being chiefly yellow and white ones.

Six Bunches of any Varieties.—This was an amateurs' class, and was won by Mr. W. G. PRUDDEN CLARK, who had the varieties Lady Roberts, Madame Herewege, Mrs. Barclay, Edith Pilkington, and Godfrey's Pride; 2nd, Mr. ERNEST E. HORSEY, Goff's Oak, Cheshunt.

DECORATIVE CLASSES.

The best vase arranged with Pompon varieties was shown by Mr. W. C. PAGRAM; Mr. A. TAYLOR being 2nd. Baskets of Chrysanthemum flowers were poor.

The best vase of Chrysanthemums exhibited by an amateur in Section A, was from Mr. H. Pestell, gr. to F. S. WIGRAM, Elstow, Bedford, and in Section B a similar exhibit from Mr. W. G. PRUDDEN CLARK, York Road, Hitchin, was awarded 1st prize.

MISCELLANEOUS PLANTS.

There were two exhibits in a class for a group of Chrysanthemums and miscellaneous plants arranged in a semi-circle of 12 feet by 6 feet (amateurs). Mr. W. Howe, gr. to Lady TATE, Park Hill, Streatham, was awarded the 1st prize for a very attractive group composed of well-grown Chrysanthemums, Begonia Gloire de Lorraine, Poinsettias, Richardias, Spreas, and stove and greenhouse plants; 2nd, Mr. ROBERT FOSTER, Superintendent of Nunhead Cemetery, who had Chrysanthemums only.

The best exhibit of six flowering Gloire de Lorraine Begonias (amateurs) was from Mr. H. Perkins, gr. to

the Hon. W. F. D. SMITH, M.P., who had perfect specimens hidden with a wealth of pink blossoms; 2nd, Mr. W. HOWE.

In an open class for a collection of plants arranged on a table, Mr. W. HOWE won the 1st prize for a collection including Poinsettias, Begonias, Lily of the Valley, Codiaums, Roman Hyacinths, and choice stove and greenhouse plants.

NON-COMPETITIVE EXHIBITS.

Mr. H. Perkins, gr. to the Hon. W. F. D. SMITH, M.P., Greenlands, Henley-on-Thames, filled a large table with finely grown and abundantly flowered plants of Gloire de Lorraine Begonia and its white variety (Gold Medal).

Mr. ROBERT FOSTER, Nunhead Cemetery, exhibited a group of plants containing Chrysanthemums, Gloire de Lorraine Begonias, Chrysanthemum blooms, and freely-flowered plants of Cypripedium insigne (Silver-gilt Medal).

Mr. NORMAN DAVIS, Framfield Nurseries, Uckfield, had a fine group of Chrysanthemums and ornamental plants arranged on the floor. There were exceedingly fine blooms of General Hutton, G. J. Warren, J. R. Upton, and others, amongst exhibition varieties; also well-flowered plants of Mme. Paolo Radaelli; and, among decorative varieties, King of Plumes, Western King, Violet Lady Beaumont, &c., were good (Gold Medal).

Messrs. H. CANNELL & SONS, Swanley, Kent, in addition to a magnificent collection of Apples, furnished a large table of Chrysanthemum-blooms, zonal Pelargoniums, and plants of Begonia Gloire de Lorraine. Amongst the Chrysanthemums was Mytilene, a singularly deep yellow-coloured Japanese incurred (Gold Medal).

Mr. H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, exhibited a very large quantity of Chrysanthemum-blooms, disposed in vases and other receptacles. The varieties shown included some of most of the types of Chrysanthemum, and together made a fine display. Also sprays of zonal Pelargoniums (Large Gold Medal).

Messrs. W. CLIBBON & SON, Altrincham, exhibited a wonderful collection of blooms of single-flowered Chrysanthemums in about 130 varieties. Included amongst these was Miss T. C. Warden, a pretty white or creamy-white variety, with four rows of florets measuring 3 inches across (Silver-gilt Medal).

Messrs. JOHN PERD & SON, West Norwood, London, S.E., furnished a table with a collection of stove and greenhouse plants, Chrysanthemum blooms, hybrid winter-flowering Begonias, &c. (Silver Medal).

Mr. THOS. ALLMAN, Rowhill Nursery, Wilmington, Dartford, exhibited a group of plants of Chrysanthemum Allman's Yellow, mentioned above.

Messrs. W. CUTBUSH & SON, Highgate, exhibited a display of Carnation blooms of choice varieties, including the fine white variety Mrs. S. J. Brooks, and a seedling from this variety; also Wm. H. Cutbush, one of the brightest-coloured Carnations possible (Silver Medal).

Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, exhibited a collection of Apples, and were awarded a Silver Medal.

CROYDON MUTUAL IMPROVEMENT

DECEMBER 1.—This Society at intervals offers prizes for essays on a given subject in horticulture. The subject for the last competition was one on "The most economical and best method of dealing with one acre of kitchen garden." The 1st prize winner was Mr. A. MIDDLETON, Coombe Lodge Gardens, and he read his winning essay before the members on the above date.

The fourth Annual Dinner of the Society will be held at the Greyhound Hotel, Croydon, on Wednesday, February 10, 1904.

PUTNEY AND WANDSWORTH CHRYSANTHEMUM.

DECEMBER 3.—The annual dinner of the members and friends of this Society, held at Putney on the above date, was a most successful event, the attendance numbering about 100, as against nearly seventy last year.

The chair was taken by Mr. J. McKerchar, who made some humorous speeches that met with a cordial reception. The toasts included "Success to the Society," "Officers of the Society," "Exhibitors," &c. To these toasts were coupled the names of Messrs. Mahood, Bartley, J. F. McLeod, Reynolds, Bradford, Smith, and Anderson. There was a capital programme of music, songs being contributed by Messrs. Weeks, Grant, Ted Berry, R. J. Berry (the Kensington Concert Party), F. Berry, R. A. Pollard, &c.

The Society is still afforded increased support in the district, and has a reserve at the end of the present season of about £22. The sitting secretary is Mr. Reynolds, and the next show will be held at Wandsworth Town Hall in November, 1904.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

DECEMBER 4.—A good display of plants was made on this occasion, Cypripediums in particular being well represented.

E. ROGERSON, Esq., Didsbury, staged a good collection, for which a Silver-gilt Medal was awarded, the finest plants being the beautiful Cypripedium × Queen of Italy, a charming product of C. Godefroyae var. leucochila × C. insigne var. Sanderæ. The flower is nearly intermediate in form, resembling the latter parent slightly, and at a first glance one might imagine that the white insignia so long sought for had at last been discovered. The colour generally is white, with here and there a yellow tinge, and marked with some minute scarcely perceptible tawny spots (First-class Certificate). Another good hybrid was C. × Para, a cross between C. Charlesworthii × C. bellatulum. The flower is of an uniformly claret colour, and C. bellatulum has been instrumental in giving the hybrid a pleasing shape (First-class Certificate). C. × Stanley Rogerson (C. Charlesworthii × C. callosum) was voted an Award of Merit.

Messrs. CHARLESWORTH & CO., Bradford, sent a handsome collection, in which hybrid Lælias and Cattleyas were prominent. Awards of Merit were made to Cattleya × Minucia var. superba, and C. × F. W. Wigan, the latter being quite new, and the result of crossing C. Schilleriana with C. aurea. The group was awarded a Silver Medal.

Messrs. A. J. KEELING & SON, Bingley, Yorkshire, staged a small group of plants; a hybrid between Cypripedium Chamberlainianum × C. Parishii was noteworthy (Vote of Thanks).

WALTER LAVERTON, Esq., Victoria Park, Manchester, staged an interesting group, consisting principally of Cypripediums (A Bronze Medal).

Messrs. SANDER & SONS, St. Albans, exhibited a few pretty Lælio-Cattleya hybrids (Vote of Thanks).

JOHN COWAN & CO., Ltd., Gateacre, obtained an Award of Merit for a good hybrid Cypripedium named C. × Imperator, a cross between C. ciliolare × C. Rothschildianum; and also for a fine form of C. callosum called splendens. Bronze Medal for the group.

Mr. JOHN ROBSON obtained an Award of Merit for Lælio-Cattleya Robsoniae, C. Bowringiana × Lælio-Cattleya × Ingrami (Bronze Medal for group). Mr. D. McLEOD exhibited a good form of Cypripedium × Annie Measures, and C. insigne var. Sanderiana, P. W.

BECKENHAM HORTICULTURAL.

DECEMBER 4.—"The Beautifying and Utilisation of Waste Spaces, Railway Embankments, &c.," was the subject for discussion on the above date, when some excellent ideas were put forward by E. LOVETT, Esq., who thought the worst possible sight was a town dust-heap, which by a little forethought in the selection of site and a surrounding of suitable trees, might be made inoffensive. He had seen beautiful trout-streams polluted by all kinds of refuse. He had often come across beautiful harmonies of house and garden, the result of individual taste and effort. An illustration of an iron-pipe from a furnace in his own garden was given to show how many necessary unsightly objects might be rendered unobjectionable when painted with yellow-green—a tint in harmony with the natural greenery. In our land of leaden skies the worst colours were the much used stone and purple-browns. Beckenham was commended for planting trees in its roads. The waste spaces on some of the principal railways amounted to a considerable area, and these might be made beautiful by planting suitable alpinas, creepers, and shrubs, and also profitable by growing Hop and other poles, fodder-plants, Rhubarb, &c., where site and conditions were favourable. Other plants, such as Veronicas, might be used to bind shifting banks.

LIVERPOOL HORTICULTURAL.

DECEMBER 5.—An interesting and instructive paper was read before the members of this Association on the above date by Mr. Horne, gr., Dawpool, Cheshire. His subject was, "How to Obtain a Continuous Supply throughout the Year of Cut Flowers for Home Consumption." The subject being so varied and of such a wide range, Mr. Horne could only touch slightly on the cultural points, but a good list of suitable subjects for the purpose was mentioned, with cultural details. A discussion followed on feeding Lily of the Valley crowns with manure-water, several members objecting to the use of manure in any form for forcing this favourite flower; the essayist, however, advocated the careful use of manure systematically. He also gave the system he has successfully adopted in growing Iris hispanica indoors. A point also raised was the affording of water to indoor plants. Two well-known gardeners advocated the use of the hose in lieu of the watering-pot from March to October, their contention being that plant pests were better kept in check, growth was clean and healthy, and good returns were obtained. J. S., Underlen Gardens, Aigburth, Liverpool.

THE SMITHFIELD CLUB.

DECEMBER 7, 8, 9, 10, 11.—During the present week there has been a great gathering of fat beasts and of prosperous-looking farmers and cattle-feeders in the Agricultural Hall, Islington, the event being that of the annual show of the Smithfield Club. We are frequently told that exhibitions are deceptive, and therefore that at Islington may have been so, but from appearances there it seemed perfectly certain that the Christmas season of 1903-4 will not lack its usual characteristics through any falling off in the supply of English fat beef and mutton. The KING again won a number of 1st prizes, maintaining his distinguished position among scientific "feeders."

At our own exhibitions the question of "size" has always been a question upon which there have been differences of opinion, and recently this particular characteristic has been denounced by some and excused by others. At Islington there is no such quibbling; differ they do upon other matters, and disappointed exhibitors are astounded at the ignorance of the gentlemen appointed as judges, but upon "size" everyone is agreed. They seek it and they worship it, greatest size, greatest weight, greatest honour!

Around the sides of the building and in the galleries was displayed a collection of agricultural machinery, which, if intelligently studied and applied, would do much to help the farmer to make his toil more effective and his business more profitable. There were also in the galleries the usual exhibits of prodigious roots from the principal seed firms.

Potatoes may always be seen at this show, but this year they were more numerous than ever, the "boom," for we cannot call it anything else, having brought several additional exhibitors.

We moved freely amongst the visitors, and were able to note the subject of general conversation. It was not the "Fiscal" question farmers discussed, but the price of "Potatoes." This was the engrossing subject; and a stimulus was found in an announcement in a daily newspaper of another "record" offer for Eldorados. There was general agreement that the "boom" would make things expensive for the planter.

The following brief notes refer to some of the principal exhibits from seedsmen:—

Messrs. SUTTON & SONS, Reading, had a stand as imposing in appearance as usual, and the produce from their seeds, grown under ordinary field culture, was remarkable. Some of the specialties were Prizewinner, Globe, Golden Tankard, and Mammoth Long Red Mangolds; Magnum Bonum and Crimson King Swedes; Centenary and Favourite Turnips; a collection of excellent Potatoes, amongst which were the popular varieties Satisfaction and Ninety-Fold; also Discovery, the new late variety now in such demand, a seedling raised from Flour Ball and Reliance; and other good varieties raised by the Reading firm.

Messrs. J. CARTER & CO., High Holborn, London, had a richly-decorated structure containing remarkable examples of produce from seeds of their special strains. Of Mangolds there were Windsor Warden, Yellow Globe, and Mammoth Prize, Long Red, &c.; Kangaroo, Holborn Elephant, and Invicta Swedes; varieties of Turnips, Kohi Rabi, excellent Onions, Carrots, Potatoes, &c.

Messrs. ED. WEBB & SONS, Wordsley, Staffordshire, were to the front as usual. Their Mammoth Long Red and New Lion Intermediate Mangolds, Arctic and Imperial Swedes, and Invincible Turnips, were of enormous size. They had good samples of several well-known varieties of Potatoes, and some newer ones; exhibits of Grain-seeds, among which Kinver Cheviot Barley occupies a high place, and seeds of some of the best varieties of Peas.

Messrs. GARTON, of Warrington, who are known for their efforts to improve varieties of Grain by cross-fertilisation, were showing samples of their new Eclipse Barley and Colossal Oat, in addition to other specialties.

Messrs. HARRISON & SONS, Leicester, included some first-class Carrots amongst a number of garden and field crops.

Messrs. W. HORNE & SONS, Cliffe, Rochester, showed Apples, also young fruit trees, and tubers of Northern Star Potato.

Messrs. J. K. KING & SONS, Coggeshall and Reading, showed some fine Mangolds, Swedes, &c., and some new varieties of Potatoes, including King Edward VII., which some declare to be the same as the old Hundred Fold Fluke, whilst others say the tubers are very much longer.

Mr. ALEX. BATCHFORD, Coventry, made exhibits of specialties in Onions, Turnips, Peas, Beans, &c.

Messrs. K. SMITH & CO., Worcester, had "New Model" Swede, also Apples and other garden produce.

Messrs. W. & J. BROWN, Peterborough, had a nice lot of Apples, and young trees of several kinds of fruits, also Northern Star and Sutton's Discovery Potatoes, &c.

Messrs. E. W. KING & CO., Coggeshall, showed Potato Northern Star (in a case), also Mangolds, and other products of the farm and garden.

Among exhibitors of Potatoes exclusively were the following: Messrs. FIDLER & SONS, Reading, had about sixty varieties, in which all of the best and newest kinds were included. Northern Star was "skied," where no

one might reach it; King Edward VII. furnished the best sample in the show. Then there were Evergood, Up-to-Date, Charles Fidler, &c.

Mr. A. FINDLAY, of Markitch, N.B., raiser of Northern Star, had only a small stand, upon which were exhibited a few tubers of the varieties following: Up-to-Date, Empress Queen, Royal Kidney, Goodfellow, Empire, Eightyfold, Ruby Queen, Queen of the Veldt, Mr. Ambrose, Northern Star and El Dorado.

Mr. H. SCARLETT, Edinburgh, had Northern Star (closely wired over), Sir J. T. D. Llewellyn and fifteen other new varieties of Potatoes.

Other exhibitors of Potatoes included Mr. S. M. THOMSON, Edinburgh; and Messrs. W. DENNIS & SON, Kirton, Lancashire.

A reminder of the failure of the fruit crops was furnished in the fact that only one firm was able to exhibit cyder this year—that of GAYMER & SON, Attleborough.

ANSWERS TO CORRESPONDENTS.

ANALYSES OF GARDEN CROPS, FRUITS, &c.: J. J. B. These are published in *The Horticultural Year Book*, by L. H. Bailey, New York Gardening Publishing Co., Ltd. Obtainable here through a foreign bookseller.

AN AMATEUR GARDENER: Chipping Sodbury. By this term is usually meant a person who performs the work of tilling his garden, tending his pot plants, fernery, rock-garden, vinery, &c., without professional aid, unless it be in digging the land and other laborious work. But there are exceptions, and we would suggest a few. A retired gardener, a person having a son by calling a gardener living at home and tendering advice, or a gardener lodger doing the same. The subject bristles with contentious points, although broadly it means that which we have stated. No person who makes a practice of selling his plants, seeds, &c., is entitled to be called an amateur.

BEGONIA GLOIRE DE LORRAINE: A. B. The flower is not likely to mature perfect seeds, but you may afford it the opportunity if you are so disposed.

BELGIAN HORTICULTURAL JOURNAL: W. We know of no journal circulating in that country which precisely resembles the *Gardeners' Chronicle*. The best journal is the *Revue l'Horticulture Belge et Etrangère*, published monthly by M. A. D. Hoste, bookseller, Rue des Champs, Gand.

BOOKS: Egon Petzke. *Palmenzucht und Palmenflege*, by Dr. Udo Dammer. Published by Trowitzsch & Sohn, Frankfurt-on-the-Oder, and obtainable through a foreign bookseller here. *The Forcing Garden*, by Samuel Wood, published by Crosby Lockwood & Co., Stationers' Hall Court, Ludgate Hill, London. This book deals with the construction of forcing houses and pits, giving plans and diagrams of work.

CHRYSANTHEMUMS: Yorks. Earlswood Glory, single-flowered, pure white; Earlswood Terracotta, terra-cotta, single-flowered; Emperor Nicholas, syn. Major Carey, Japanese. The others we are unable to find in any trade list.

COCKROACHES: J. S. Try Beetlecote, frequently mentioned in our reports of the Royal Horticultural Society's meetings. A good trap for these pests is to place an inverted 8-inch flower-pot on a piece of slate, burying it so deep in the soil as to have the bottom flush with the soil. Then drop a piece of bread or meat on to the slate as bait. By this means numbers may be caught.

CORRECTION: *Araucaria Cunninghami*, at Killerton. By an oversight in the manuscript, this plant was mentioned, in p. 386, instead of *Cunninghamia sinensis*.

DISEASED FIGS: E. S. Gallon. The fungus which was found by you on the leaves spoiled the fruits, preventing their development. Can you send a few for our inspection?

EUPHARIS BULES: T. W. O. The mite is probably present on the bulbs, although we could not discover it.

FEMALE BLOOMS OF BEGONIA GLOIRE DE LORRAINE: S. Capon. You would have greater chances of success in obtaining seeds by crossing or self-fertilisation, by removing the plant to a structure having the same degree of heat but less humidity than that it now stands in.

"HARDY" CUT FLOWERS: T. W. O. Of those you mention, one only, *Antirrhinum*, is hardy,

and in some places, Stocks (Brompton). The remainder are half hardy.

MARKET GROWERS' MUSHROOM BEDS: Y. S. Out-of-doors these are usually made 4 feet wide and 3 to 3½ feet high at the ridge; and indoors, flattish beds 2 feet deep at the front and 2½ feet the back are usual.

NAMES OF FRUITS: R. J. Baxter's Pearmain.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—A. B. A species of *Eranthemum*. The specimen is insufficient for more specific determination.—G. H. P. *Pilea pubescens*.—W. P. *Ruellia macrantha*.—H. W. Specimen insufficient.—P. *Aloe socotrina*.—T. E., Dudley. 1, *Adiantum tenerum*; 2, *Adiantum trapeziforme* var. *Sancta Katherine*; 3, *Adiantum decorum*; 4, *Adiantum gracillimum*; 5, *Aspidium coriaceum capense*; 6, *Blechnum brasiliense*.—M. A. T. 1, *Epidendrum nocturnum*; 2, *Epidendrum ciliare*; 3, *Oncidium cheiroporphum*.—J. M., Notts. 1, *Lastrea atrata*; 2, *Asplenium lucidum*; 3, *Asplenium marinum*; 4, *Polypodium vulgare*; 5, *Blechnum occidentale*; 6, *Asplenium Colensoi*.—W. D. Fern with brown fronds. The *Pteris* which you send belongs to a section of thin-leaved garden-raised varieties, which are very liable to be affected in the manner shown by your plant. This kind has the fronds turn brown in places even in a house in which the *Pteris serrulata* and *Pteris cretica* are in good condition. On that account most growers have given up growing it. Beyond that your plant may have been affected by fumigation, or by condensed moisture when the temperature had fallen low.—T. H. *Beaumaris*. 1, *Podocarpus chilina*; 2, *Cunninghamia sinensis*; 3, *Abies nobilis*; 4, *Tsuga canadensis*, Hemlock Spruce; 5, *Cryptomeria japonica*; *Thuja gigantea* (Lobbi of gardens); 7, *Ligustrum lucidum*; 8, *Cupressus sempervirens*; 9, *Picea Morinda* alias *Smithiana*.—R. T., Transvaal. *Elephantorrhiza Burchelli*.—J. M. 1, *Coronilla glauca*; 2, *Eupatorium Weinmannianum*; 3, *Cytisus racemosus*; 4, *Nephrolepis undulatum*.

NOTICE TO QUIT SERVICE: E. W. The engagement does not appear to have been consummated, and the young gardener was only on probation, so that under these circumstances one month's notice on either side would be sufficient. The master—man, as also any leading subordinate for whom the employer paid servant-tax, would be entitled to three months' notice or money in lieu thereof, having regard to perquisites and allowances for that period of time. This is in the absence of any agreement in writing, although in practice it is commonly reduced to a month.

PLANTAIN IN TURF: T. W. O. Vitriol is better than spirits of turpentine. A few drops put into the heart of the plant destroys its vitality in a short space of time. It needs great care in the use. Carbolic acid is less dangerous, and almost as effectual. The plant flowers throughout the summer.

STACHYS TUBERIFERA (CROSNES): J. L. The cool, wet season would account for the light crop of tubers. We know of no other cause.

TOMATO: G. H. H. A good variety of the smooth-skinned "Perfection" type, as far as can be seen. But why not have taken greater care in packing, and have used a wooden box instead of one made of cardboard, which is so easily crushed in the post?

VINES NOW BLEEDING ON BEING PRUNED: R. B. Under the circumstances it would be prudent to disbud them, pruning the laterals when in leaf.

COMMUNICATIONS RECEIVED.—G. S. B.—R. T. B., Sydney.—Tokataro, Ito, Japan.—W. B. H.—W. W.—K. W. R.—J. D.—G. H.—K. A. B.—K. W.—B. D. J.—W. G. S.—W. J. B.—W. & K.—F. M. G.—P. & S.—Lord K.—B. D. J.—J. B. & Sons, Boston, U.S.A.—J. W. D.—Jamaica Plain, Mass.—G. J. J.—G. S. B.—Ernst Benary, Erfurt.—R. J. & Sons—W. W.—Otto Stapf—J. D. G.—Udo Dammer, Berlin.—Harrison Weir (with thanks)—J. D.—Baron Schroder—T. E. H.—D. B. J.—W. G. S.—W. M., Bexley (next week)—J. R. J.—H. W.—J. Corderoy—A. H.—J. E.—F. S.—F. F.—A. J.—T. A.—E. B.—A. T.—B. G. S.—G. H. Engelheart—Rondetta speciosa—E. H. J.—J. O'B.—Board of Agriculture—E. C.—H. W.—H. H.—W. C.—N. E. B.—S. T. G.—A. W. E. T.—W. M.—J. C. T.—E. A. T.



CYPRIPEDIUM (PAPHIOPEDILUM) GLAUCOPHYLLUM, FROM M. LINDEN.

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SALTRAM.

THE gardens of Saltram (Devon), the residence of the Earl of Morley, a nobleman who has for many years interested himself in the culture of the rarer flowering shrubs and trees, are particularly attractive to the horticulturist, not only on account of the many tender subjects that may there be seen in the best of health, but from the manner in which the natural disadvantages of the site of the main garden have been ameliorated by judicious planting. This garden, which runs due west from the great house, occupies the flat top of a long ridge that slopes gently down over meadows on the south, and on the north falls abruptly to the Laira creek, this declivity being covered with a thick wood that breaks the force of northerly gales, while on the southern side groups of Evergreens afford the necessary shelter. On the top of the ridge the soil is only about 6 inches in depth, flat, flaky stones, popularly known as shillet, being met with at that distance from the surface; but in spite of this, the many fine trees growing on the spot show that adequate sustenance is obtainable from the apparently sterile ground. As soon, however, as the slope commences on either side good and deep soil is found.

On the lawn immediately to the west of the house is a square plot surrounded by stone pillars and chains, the latter being

hidden by festoons of Ivy, in which formal beds are cut, these being filled with the ordinary summer-flowering plants. With this exception no bedding-out is to be seen in the grounds.

Some distance away is an old Judas-tree standing in an isolated position on the lawn. This tree has a trunk circumference of 5 feet, and was uprooted in the memorable blizzard of March 11, 1891. It was carefully raised and re-planted without suffering in health, but in a recent gale of Sept. 10, it was again blown down, and has once more been lifted and strongly supported in its former position. To the right of the Judas-tree is a buttressed chapel, built at the same time as the house, whose walls are covered with Ivy, Magnolia grandiflora, Virginian-creeper, climbing Roses, and Ceanothus puniceus. Passing by the end of the chapel along a walk backed by a wide herbaceous border a large gravelled space is reached, in the centre of which is an oval basin containing Nymphaea odorata rosea, N. Robinsoni, and N. Laydekeri rosea, while during the summer and autumn the remaining space is filled with about thirty Orange-trees, some of them 12 feet in height and almost as much in diameter, and 100 years old. Surrounding this open space are many rare and beautiful shrubs which have taken the place of the wilderness of Laurels that once monopolised the ground. On one side stand the two fine specimens of the Fan Palm (Trachycarpus excelsus), shown in the illustration (fig. 163). These are 15 feet in height, and between them may be seen the largest Loquat (Photinia japonica) that I know in the south-west, 15 feet 6 inches in height and 13 feet 6 inches in spread. In front of and to the left of the Loquat are two great Camellia bushes, the latter being 13 feet high and 12 feet through. The two bare and scrubby bushes in the fore-front are Hydrangea paniculata, and were, in September, covered with great flower-trusses 18 inches in length. Around the other sides are fine Bamboos, large specimens of Abutilon vitifolium, Cornus capitata (Benthamia), Indigofera Gerardiana, Callistemon salignus, Carpentaria californica, Berberis nepalensis, Melianthus major, Ilex camellifolia, planted sixteen years ago and now 13 feet in height; Ilex Tarao, and numerous Rhododendrons, including Thompsoni, Kewense, Pink Pearl, Fordii, Frances Thielton-Dyer, calophyllum, Hexe, racemosum, argenteum (grande), Falconeri (Griffithianum), campylocarpum, ciliatum, Luscombei, and many hybrid arboreums.

Passing westwards under great trees and over lawns the orangery is reached, beyond which the wide borders on either side of a path lying a little below the highest level, and sheltered from all winds by evergreens, at a little distance, contain many treasures. Here are two fine bushes of Camellia reticulata, almost invariably grown as a wall plant, 7 feet in height; Tricuspidaria hexapetala (Crinodendron), also a 7-foot bush, that was thickly covered with its drooping, rosy flowers during the past summer; Eucryphia pinnatifolia, 9 feet 6 inches; Oreodaphne californica, Viburnum macrocephalum, Buddleia Colvillei, B. variabilis, Grevillea rosmarinifolia, Mitrasia coccinea, Olearia macrodonta, Andromeda arborea, flowering in September, and turning a beautiful colour in the autumn; Cornus macrophylla, Clethra

alnifolia, Escallonia montevidensis, Phillyrea decora, Desmodium penduliflorum (Lepedeza), Vaccinium pensylvanicum, bright in autumn; Correa magnifica, Styra japonica, 8 feet; Ozothamnus rosmarinifolius, Caryopteris Mastacanthus, Pieris formosa, 15 feet; Nuttallia cerasiformis, Viburnum odoratissimum (Awafuki), V. Sieboldi, Drimys Winteri, a particularly vigorous example, 9 feet in height; Embotrium coccineum, Daphniphyllum glaucescens, 8 feet by 10 feet; Shepherdia canadensis, Clerodendron foetidum, C. trichotomum, Stephanandra flexuosa, Desfontainea spinosa, Edwardsia microphylla, Erythrina crista-galli, Xanthoceras sorbifolia, large bushes of blue Hydrangeas, and great shrubs of Choisya ternata.

At the end of the garden, about a quarter of a mile from the house, from which point Plymouth may be seen lying below 3 miles to the west, is an Ivy-covered, octagonal, stone summer-house, with the date 1743 on the leaden heads of the water-pipes, which also carry the embossed arms of Parker and Paulet. This building has a handsome carved mantelpiece and a large tessellated square within the door depicting an open-mouthed black animal, with the inscription "Cave canem" beneath. It probably owes its existence to Adam, who carried out the decoration of the interior of the mansion.

In a sheltered spot on one of the lawns is the great Cycas revoluta here illustrated (fig. 164). It has a leaf circumference of 30 feet, and is protected during the winter. There is another specimen in the gardens that has been in the open for seven years. Cordyline australis is well represented, and there is a fine example of C. Banksii. Azara microphylla attains a height of over 20 feet; and other trees deserving of mention are a Spanish Chestnut with a girth of 15 feet; several Stone Pines, of which the largest is 60 feet in height with a girth of 8 feet 6 inches, but which suffered the loss of some of its largest branches in the blizzard; a Plane-tree with branch spread of 90 feet, a picturesque old Oak with curiously twisted branches on which Polypody Ferns grow; Paulownia imperialis, Tulip-tree, Catalpa bignonioides, fine Hollies, a Deodar with Vitis Cointetiae 30 feet up its trunk, four specimens of Taxodium distichum growing in the shallowest soil at the top of the ridge. Notwithstanding the apparent unsuitability of the site for the moisture-loving deciduous Cypress, the trees, which are seventy years old, are 50 feet in height and in good health. Pinus radiata (insignis) makes remarkable growth, one that was planted less than fifteen years ago being now 45 feet in height. Of late years young trees of Cedrus atlantica glauca and Cupressus macrocarpa aurea have been planted, which are doing well. Cyclamen neapolitanum grows thickly beneath two huge Beeches on the lawn.

Part of the steep slope at the east of the house is occupied by an enormous Lime, Narcissi starring the grass beneath its branches in the spring; while hard by are growing large bushes of Indian Azaleas. In the park beyond are many fine trees, amongst which are Cedars of Lebanon about 70 feet in height.

About half a mile to the east of the house lies the Happy Valley, which runs from the wooded hills to the low-lying meadows. The ground at its head was almost denuded of trees in the blizzard, and has since been

planted with Maples in variety and Oaks of the most decorative autumnal tints, together with various trees possessing the same characteristics, such as *Parrotia persica*, *Carya alba*, *Gleditschia triacantha*, *Pavia indica*, and others, which present a glorious sight when turning colour. Some of the rarer *Rhododendrons* were at first tried in the valley, but these were unfortunately killed by the frost, which is severe owing to the moist bottom, so that the hardier hybrids are now relied upon. *Gunneras* and *Bamboos* have made fine growth, *Eryngium pandanifolium* throws up flower-spikes

jasminoides, *Wistaria sinensis*, *Pomegranate*, *Magnolia Lennei* and *Trachelospermum jasminoides*. The arches in the walls are all festooned with *Vitis Coignetia*, which, at the close of September, was just commencing to colour. This year the Apple crop was practically a failure in the South-west, and in this connection it is pleasant to be able to state that the Saltram garden, both in quantity and quality, has not fared as badly as many of its neighbours. *S. W. Fitzherbert*. [For the photographs whence our illustrations were taken we are also indebted to Mr. Fitzherbert. ED.]

with violet-brown and sprinkled and ciliate with purple hairs. It was discovered by Dr. R. Marloth (No. 3307) on the Bokkeveld Karoo, and by Mr. N. S. Pillans (No. 66) between Ceres and Calvinia, in South Africa. To these gentlemen Kew is indebted for living plants and well preserved specimens. *N. E. Brown*.

PROPAGATION OF WOOD AND COPPICE PLANTS.

ATTENTION has been called to the fact that a previous article dealing with wood and coppice-planting did not, as it were, begin at the founda-



FIG. 163.—PALM, LOQUAT, CAMELLIA AND BAMBOO IN THE GARDENS OF LORD MORLEY AT SALTRAM. (SEE P. 413.)

12 feet in height, *Polygonum sachalinense* and great *Fuchsia* bushes are handsome in the early autumn, and the Maidenhair-tree (*Salisburia*), Loquat, *Phormiums*, Fan Palms, *Cordylines*, *Pittosporums*, *Woodwardia radicans* and *Osmundas* add to the variety of the secluded scene. The Douglas Fir has been planted in the Hazels at the top of the slope, but, unlike *Pinus radiata*, it is practically a failure.

The kitchen-garden of 6 acres has about a mile of wall. The old glasshouses have been lately pulled down and new structures erected in their place. These consist of two long lean-to houses, each divided into three sections, a long Peach-house, and three span-roof houses. Wide herbaceous borders flank the main walks, and on one of the walls flowering shrubs and climbers are grown, these including *Tecoma radicans*, *Solanum*

NEW OR NOTEWORTHY PLANTS.

CARALLUMA MARLOTHII, *N. E. Brown*.*

This is an interesting new member of the *Stapelia* tribe, producing an abundance of small, starry flowers of a light-green colour, dotted

* *Caralluma Marlothii*, *N. E. Brown*, (n. sp.).—Plant about 3 to 3½ inches high, branching at the base; branches rather crowded, decumbent at the base, acutely 4-angled, with nearly flat or slightly grooved faces, ½ to ⅔ inch square, glabrous, entirely dull violet or more or less mottled with it where exposed to the sun; angles armed with conical acute teeth, becoming hardened and whitish at the tips, about 2 to 4 lines apart and 1 to 2 lines long. Flowers in numerous fascicles of 2 to 4, scattered along the middle of two or all four faces of the stems; pedicels ⅓ to ½ inch long, erect, slightly curved, slender, glabrous; sepals about ¼ line long, nearly ½ line broad at the base, thence tapering to an acute point, glabrous; corolla apparently rotate, about 3½ lines in diameter, light green, covered to the tips of the lobes with small dark purple-brown

spots, which show through on the glabrous outside thinly covered on the inner face and ciliate on the margins with purple hairs; lobes 1½ to 2 lines long, 1 line broad, oblong-lanceolate, acute, thickened at the apex, where there is a small tuft of short hairs; outer coronal-lobes erect, yellow, about ⅓ line long, ½ line broad, linear from a broadened base, deeply bifid at the apex, with slightly diverging filiform lobes, glabrous; inner coronal-lobes brownish-red, erect, connate to the staminal-column in the lower part, with the linear, lanceolate, acute tips incumbent on the backs of the anthers; at the bend they are produced into a short, stout dorsal arm, which sometimes shows a tendency to become bifid, glabrous; pollen, masses very conspicuous, globose, yellow. This species is allied to *C. arida*, *N. E. Br.*

tion of the industry, but presupposed the existence of a nursery, whence all the plants used in the work could be drawn as required. This paper is designed to remedy the omission.

Generally, forest-trees are raised from seed, but much depends upon the quality of this, and its careful selection and preparation.

for the seed-bed. To give an instance, Ash-plants are raised from "keys," as the winged achenes are called; but the observant forester knows that weakly and slow-growing trees produce seeds most abundantly, and he also is aware that these are almost sure to yield slow-growing and stunted plants. Let the keys therefore be gathered from free-growing and vigorous specimens if the best results are looked for. Let these be pitted, that is, buried in a trench or pit in the soil from the time of gathering till sowing time the following March. Do not allow the keys to lie too thickly in the trench, or they may ferment and perish by heat as it is called, or perhaps germinate prematurely and so spoil. A

it. Be careful not to get hold of a wrong sort. Some years since there was a great scarcity of Ash seedlings, and the demand was so great that nurserymen were obliged to go abroad for them. A friend imported a great many from the North of France. He thought he had secured a great bargain, and gave them out to his foreman to have them dibbled in the quarters. He showed me a handful of them, and they certainly were, as he put it, as fine as needles; and the bark, instead of being ash-grey, was purple, almost black.

The planters took them in hand, but told me they could not get on with their work, as there was a very cold east wind blowing, and their

imported Spanish and Italian nuts are accepted, the smaller the better, because there are more numerically to the bushel of these. For the same reason English produce is preferred, and some assert that plants grown from these are more hardy; but this may be mere fancy.

HAZEL is also raised from the nut; but both these and Chestnuts should be thoroughly soaked in water for a few days, and then dusted over with red-lead, in dry powder, as this will make them distasteful to the field-mice, and also to rooks, both of which devour them greedily when they find them, especially just as they germinate, and the starch in their cells is being converted into sugar in the process.



FIG. 164.—CYCAS REVOLUTA IN THE GARDENS OF LORD MORLEY AT SALTRAM. (SEE P. 413.)

good preventative is to mix an equal bulk of sand and charcoal ashes, always to be had where charcoal-burning is carried on in forests, with the gathered Ash-keys when pitting, and this will prevent fermentation; and when the seeds are lifted to be sown they will be found clean and firm, and may be rubbed in the hands and at once sown in the nursery. The achenes (keys) of the Maple and Sycamore require like treatment.

Tree-seeds can be bought, and there are dealers who make a specialty of them, but growers are advised to collect their own seed, and thus be enabled to depend upon it both for germination and vigour. Loudon gives a sure test for the germination of the keys of the Ash, Maple, and Sycamore, namely, to split open the keys at the side, and then, if the contained cotyledons (seed-leaves) are green, the seed is certain to grow; but, on the other hand, if brown or yellow, it is useless to sow

benumbed fingers could scarcely feel the little seedlings. At last they were all in the ground; but one could see at a glance they were not right, and in contrast with a few rows of home-raised seedlings looked quite another thing. There was bitter disappointment in store, for the seedlings grew but slowly and withal so thin that when they should have been saleable they were useless for the market; and what he sold the nurseryman had returned on his hands, and eventually he used them for plant-sticks in his floral department. A skilled New Forester said they were the Black Ash; but it was not easy to identify the variety, but it may have been *Fraxinus excelsior purpurascens*, which has dark acute leaves and purple bark.

The SPANISH CHESTNUT is raised from nuts, preferably English-grown; but these are only forthcoming in bright hot summers, so the small

ACORNS from which Oaks are grown should be carefully selected from the free-growing pedunculate-flowering kind, for reasons already given in the former part of this article; while BEECH-MAST should be treated in the same way and sown in drills, a good average depth for all being 2 to 3 inches, according to the nature of the soil. The HOENBEAM is also raised from its small nut-like seeds, which ripen late in October. The bunches (cones is the technical name) should be gathered by hand, when the nuts are ready to drop out, and spread on mats in the sun, when they will soon all drop out, and may be sown at once in the nursery, when they will germinate the following spring; but some will take longer—in fact, they frequently come in three crops. Some growers prefer to pit them in dry sand or light earth, when, if they be sown in shallow drills, the following spring they

will germinate freely. It is better therefore to let them rest in the seed-bed two years, after which they may be quartered out.

Hornbeam is most useful to form hedges, and is an admirable nurse-plant for tender Conifers, as it, in common with the Beech, generally retains its withered foliage all the winter, indeed, till the spring-growth pushes it off, so forming a warm screen from cold winds.

POPULAR is propagated from cuttings of two-year or mature young wood. A convenient length is 10 inches, six of which should be firmly planted in the soil, leaving two or three buds above. These should be made and bedded-in early in the autumn when the leaves are beginning to fall, and they will make plants fit to use in the woods in two years or less, and will thrive best in a moderately wet spot. The best kind is the black Italian (*Populus aladescas*), and another *P. canadensis nova*. Both of these Poplars also form admirable shelters (loos) for Hop-grounds, and are largely used for this purpose. In the position indicated they form useful stools in woods, and the wood is among the best for fuel, and largely used for this and charcoal-making on the Continent. It is too soft and pithy to make good poles, and even if tanked lasts but a short time sound.

Their near relatives the WILLOWS or OSIERS are raised from cuttings of the same length and size, the most useful kind being *Salix alba*, the common white Willow, being rapid and erect in growth from the stool, and poles of it when tanked are as durable as the Plum-leaved or the bitter Willow.

In the North and in Scotland the bark is used for tanning, and the timber, next to Alder, is esteemed for charcoal-making by gunpowder manufacturers, as it yields a fine-grained charcoal; this is also the best for making artists' crayons. According to Sang, a plantation of this will make as profitable and quick a return as Larch, but, unlike it, thrives in wet soils.

ALDER, so indispensable for wet woods, comes easily from seed, which is freely produced in cone-like fruits in the Autumn. The seeds remain in the cones till the following year, but if they be gathered and laid out to dry on mats in the sun, when fully mature in dry weather, they will shed their seed freely. Sow in drills in March, and cover very slightly with light soil.

In cutting down the stools care must be taken to cut upwards with a good slant, and in the spring when the sap is beginning to rise, otherwise the sap will rise, and the cut will not heal, but will decay, and so injure the stool permanently, and at last make it rot away. *Alnus glutinosa* is the sort usually grown, but *A. incana* is better, and will do equally well in either wet or ordinary soil, while it is more ornamental.

BIRCH, so useful in poor sandy or in wet soils, is raised from seed; but these are so small that they do not need covering in the seed-bed, but merely scattering, and being patted down with the back of the spade in early March, will germinate the same spring. Foresters recognise two varieties, the red and the white, but they are identical, though some remain red-barked much longer than others, but as they grow older become silvery. According to historians, Birch-bark yielded the first writing-paper, and at the present day the bark of the American Birch (*Betula papyracea*) is used to make the light canoes so useful in Canada and the northern parts of America.

Whether growing in wet or dry soil the Birch throws up freely from the stool, and, properly tanked, the poles are lasting and the wood hard and durable, but often are crooked and warped.

It is advisable to cover the seed-bed with branches of Spruce or other Fir, or even of the common Gorse, to keep it uniformly moist, and in a measure to circumvent the birds. *Experience*.

NOTICES OF BOOKS.

L'ART DE CONSERVER LES RAISINS DE TABLE.

Par François Charmeux. (Paris: Librairie Horticole.)

THIS is a small treatise by a well-known Vine-grower at Thoméry, and deals with the preservation of ripe Grapes in a fresh condition during the winter in the fruit-room. Historical details are given as to the origin and progress of the methods now in use. The Vines are, as it is well known here, grown at Thoméry on walls, and on a very large scale. The method of cultivation is not detailed in this book, but only the collection and preservation of the Grapes by inserting the stalks of the bunches into bottles of water placed on racks in the fruit-room. This practice, introduced here from France and carried out on a relatively modest scale, is followed at Thoméry on so large an extent that it has become a very important industry, giving occupation to great numbers of workmen and also of women. It will easily be judged that the price obtained in May for well-preserved Chasselas is much higher than it is in September. How the work is accomplished is well told in the little work before us, to which M. Maumené contributes a preface. The book is thoroughly practical, and deals with the preliminary thinnings and with the construction and maintenance of the fruit-room, all details so clearly and instructively given that the book cannot fail to be of great utility to those concerned.

AN INTRODUCTION TO BOTANY. By William Chase Stevens. (Heath & Co., York Street, Covent Garden.)

There is such a profusion of books for beginners that it is very difficult to assess their respective merits. A glance at the present volume, however, shows that it is eminently practical, and well adapted to teach and encourage the pupil to observe and find out for himself points of structure in plants and the methods and objects of their working. Very great stress, and rightly so, is laid on the necessity for drawing everything that is seen.

THE GARDEN DECORATIVE. By F. M. Wells. (London: The Cable Printing and Publishing Co., Ltd., Great Queen Street, W.C.)

It needs courage to contribute yet another book about gardens to the great numbers of such works already before the public. Mr. Wells has, however, something to tell us; he has knowledge of his subject and ideas of his own. In *The Garden Decorative* he pleads for beauty in the garden, not of single plants or of isolated arrangements, but in the whole scheme. There must, he says, to ensure a really satisfactory result, be not merely good plants well cultivated, but "over and above these there must be that fine sense of repose and of harmony without which no garden, strictly speaking, can be accounted really beautiful and satisfying."

The author gives many hints on the selection of plants for various situations, and useful lists of those which succeed in heavy and in dry soils respectively. He tempers his desire for appropriateness in every detail with a due appreciation of scented flowers, old-fashioned flowers, and other favourites. In fact, we have a handy book of reference that should prove full of suggestion to garden-lovers, the whole written with common-sense and from practical experience.

THE AMATEUR GARDENER'S DIARY AND DICTIONARY. (Published at the office of *Garden Life*, Great Queen Street, W.C.)

In this book space is given for daily notes on work done in the garden, and the memorandum pages are interleaved with a calendar of opera-

tions for every month. The second part of the little volume is the amateur gardener's dictionary, and here are useful notes on plants, appliances, cultivation, &c., arranged alphabetically from *Abelia* to *Zinnia*. When we add that tables of useful information are also included, we need say no more to show how handy this book should be to the large public to whom it is addressed. It lays no claim to be a scientific or elaborate treatise, but is rather a plainly-written reminder for daily reference.

POTASH MANURING.

THE element potash is not only an important but an essential constituent in the successful growth of nearly all plants, whether on the farm, in the garden, or in the orchard.

It has sometimes been stated that potash is of relatively less importance than either nitrogen or phosphoric acid, inasmuch as good soils are naturally richer in this ingredient, and because a less amount is removed in general farming than of either nitrogen or phosphoric acid, for the reason that potash is located to a less extent in the grain of cereal crops than in the straw, which latter is retained for the most part upon the farm.

All this may be perfectly true, yet potash is found to be a very necessary constituent of fertilisers, both on heavy and on light lands. For meadow and pasture lands particularly is potash valuable, and especially where vigorous growth of the Clover plants is required; also for certain potash-consuming crops as Potatoes and roots.

AMOUNT OF POTASH IN CROPS.

We find that an average crop of Wheat requires 29 lb. of potash, a crop of Barley 36 lb., and a crop of Oats 46 lb.; but as the greater part of this is found in the straw it will probably be returned to the land in the form of farmyard manure. But should the straw be sold, then the land becomes greatly exhausted of this constituent. Taking into account the crops which are more generally sold from the farm, we find that an average crop of meadow hay will remove 51 lb. of potash; Red Clover hay 83 lb.; white Turnips (roots) 109 lb.; Swedish Turnips 63 lb.; while an average crop of Mangolds, say, 22 tons of roots per acre, will require the large quantity of 223 lb. And as sometimes the leaves are taken off for stock-feeding purposes, it may be reckoned in such cases that nearly 3 cwt. of potash is removed in the average crop.

Many garden crops are great consumers of potash; 6 tons of Potato tubers will remove 77 lb. of potash from the soil. Beets, Onions, Carrots, Celery, and Asparagus are all largely dependent on a full potash supply. Then as to fruit-growing, it is found that a crop of Apples will remove three times as much potash as a crop of Wheat.

It will naturally be understood that the quantity of potash withdrawn from the soil by a given crop varies from year to year according to the abundance of the yield and the climatic conditions of the season.

THE ROTHAMSTED EXPERIMENTS.

In the course of the world-renowned agricultural experiments at the Rothamsted Experimental Station, which have been carried on during the past sixty years, much incidental light has been thrown on the action and value of potash manures. For example, in the experiments on Mangels, the great effect of potash is very striking, and it may be correlated with the fact that the Mangel is essentially a sugar-producing plant, and large supplies of potash seem to be essential to the processes in the root which result in the formation of sugar and similar bodies.

Further, despite the large amounts of potash contained in farmyard-manure, which is usually relied upon for the Mangel crop, the Rothamsted experiments show that these roots are such a potash-loving crop that they are much benefited by further additions of potash salts, especially when other nitrogenous manures are also being used. At the present time (November, 1903) the appearance of the growing crop is very indicative of the value of the potash dressing; where it has been applied the crop is altogether healthier and riper.

Also in the present ungenial season the Rothamsted experiments on the continuous growth of Wheat have shown a very decided benefit from the application of potash.

Not only was the crop of a brighter colour, and stood up better, but the grain was more fully developed, and gave a greater weight per bushel. There was also a gain of about 10 bushels of dressed corn, with its proportion of straw, when the potash had been applied, as compared with adjoining plots when potash was omitted from the manures.

In the Rothamsted experiments on permanent meadow land in the present season (1903), the plot receiving a full mineral manure containing potash, but no ammonia or nitrate, yielded 49½ cwt. of hay per acre, which is 14½ cwt. per acre in excess of the average of forty-eight years for this plot. This was due to the extensive growth of the Clover plants in the herbage encouraged by the potash supply in the manure. An adjoining plot, which receives the same description of manure each year, except that potash is omitted, yielded in the present season but 23½ cwt. of hay per acre, and is 4½ cwt. less than the average produce. Thus, without potash, although all the other minerals (including phosphate) were used, the Clovers could make no progress.

The grasses also made very meagre growth. The omission of potash made a difference of 26½ cwt. of hay per acre, and the yield was of an inferior quality.

It is found at Rothamsted that potash manures produce a large increase of crop, although the soil is of a comparatively stiff and clayey nature, such as would be described as a stiff clay loam, and contains much inherent potash, but not in an available condition. There are doubtless many similar soils in Great Britain, in which the presence of clay does not always or necessarily imply the presence of enough potash in a soluble form for the requirements of maximum crops. *J. J. Willis, Hecla Villa, Harpenden.*

BERLIN.

DENDROLOGICAL WINTER-STUDIES.*

A BRANCH of horticultural botany that has been much neglected since the publication of Willkomm's and Rossmässler's work is the study of the characters of trees and shrubs in their leafless state. The value of such a knowledge is apparent when we take into consideration its importance in landscape gardening, especially during the planting season. Closely connected with this is the work of the nurseryman in preparing plants for removal, when a thorough knowledge of leafless shrubs, &c., is indispensable. Although this book will be of special benefit to the professional and amateur gardener, it will also be useful to the dendrologist in his scientific researches. Schneider, who has taken up this interesting work, has published a book which deserves attention. He gives illustrations showing clearly the salient characteristics of each species, and the distinguishing features of kinds that closely resemble each

other. His work treats of 235 genera and 434 species, which are either natives of Central Europe or hardy therein.

Only those who have studied the subject are aware of the interest afforded by such winter characters. The habit, form, the branches, and even the bark, all show points of difference. The student observes also a number of other details, some of them minute, that play an important part; for instance, the twigs, their colour and anatomical structure; the thorns and spines, the lenticels, hairs, glands, and waxy covering; the buds, their scales and internal construction, &c. The importance of these structures is shown by the 224 illustrations in the book before us. A

LÆLIA × HELEN.

THIS fine hybrid was raised by Messrs. Charlesworth, of the Heaton Nurseries, Bradford, its parents being *Lælia Digbyana* × *L. tenebrosa* (fig. 165). Undoubtedly it stands in the front rank among artificially-raised Orchids, and, as here shown by the illustration, is very handsome. The sepals and petals bronzy-rose, the large beautifully fringed labellum being of a pale-rosy-lilac colour. As with the majority of *Lælia* and *Lælio-Cattleya* hybrids, its constitution is robust, and given ordinary Cattleya-house treatment its cultivation is easy. *Lælia Helen* received an Award of Merit from the Royal Horticultural Society's Orchid Committee on May 28, 1902. Our illustration is from a photograph by Mr. F. Mason Good.



FIG. 165.—LÆLIA × HELEN, AS GROWN BY SIR TREVOR LAWRENCE, BT.

systematic summary of genera and species is added at the end of the volume, where we also find a useful index. It contains 290 pages.

I am so convinced of the usefulness of the book that I wish to bring it under notice during the present planting season. *E. W. B., Berlin.*

PLANT PORTRAITS.

CHRYSANTHEMUM CHARLES SCHWARZ — One of Nonin's seedlings belonging to the Japanese section and having mahogany-red flowers. *Revue de l'Horticulture Belge*, December.

GLORIOSA LEOPOLDI, *Revue Horticole*, December 1.—With this yellow flowered variety, *G. grandiflora*. *Botanical Magazine*, t. 5218, is supposed to be synonymous. It comes from the French Congo.

A POTATO DISEASE.

IN the autumn of 1902 several Potato tubers were sent to me from the neighbourhood of Helsby, Cheshire, bearing some very remarkable outgrowths, which in all cases had their origin in the eyes of the tubers. At that time I attributed these abnormal growths to a remarkable form of fasciation, but have reason to believe that I was wrong, and that the disease was probably due to the presence of the recently-discovered fungus, *Chrysophlyctis endobiotica* of Schilbersky, which was described in 1896. Being desirous of observing the development of the disease, two of the infected tubers were preserved, and planted on the first Tuesday in May, 1903, on a warm south border, in well-prepared ground. The

* *Dendrologische Winterstudien*, von Camillo Carl Schneider, Verlag von Gustav Fischer in Jena. (Williams & Norgate.)

largest tuber was divided, one half (a) bearing an abnormal outgrowth, the other half (b) being apparently free from the disease. The second tuber (c) was a small one, weighing about 30 grams; this was not divided. a rotted in the ground, b produced two stems or haulms and two tubers weighing respectively 59½ grams and 32 grams; c produced a weakly plant, like that of a seedling, and two small tubers, one weighing 12.8 grams, the other 3.3 grams. All the new tubers were free from abnormal growths, but on one of the main roots of the smallest plant (c), and quite close to the largest of the two tubers, was an outgrowth precisely like that which was attached to the parent tuber when planted. From this result one may reasonably assume that the disease had perpetuated itself, and although there is at present no signs of the disease on the tubers themselves, it is just possible that in spring the young growths may become atrophied in the same manner as those were on the parent tubers.

In 1892 Mr. M. C. Potter described the nature of this disease from examples which had been submitted to the Board of Agriculture* from Cheshire, but whether the examples came from the same locality as my own I am unable to say. There is also an interesting article, accompanied by a photograph showing the nature of the disease in its most typical form, in the *Gardeners' Chronicle*, March 21, 1903, p. 187, fig. 81.

I believe that similar outgrowths on the Potato have been frequently observed in various parts of the country, and so far as my own experience goes I well remember its prevalence at Upwell, Cambs., about the year 1878. It seems, however, that such outgrowths have hitherto been regarded more or less as harmless curiosities of natural history, but as its prevalence in Cheshire has led to considerable loss, the matter should receive the attention of experts in the study of micro-fungi.

It may be interesting to add that quite a number of Hollyhocks in my garden have for the last four years produced outgrowths similar in appearance with those found on the Potato; and this year a Pelargonium was attacked in the same manner. In both these instances the growths originated at the crown of the plants, and in the Hollyhocks occurred in large masses; the only plants attacked were those growing in a light and often very dry soil close under a south wall where they did remarkably well and blossomed throughout the summer. This year (1903) the disease was very prevalent in its old habitat at Helsby, and from what I could gather was most destructive on land previously cultivated with Potatoes. R. N. [We do not think there is at present any evidence to connect the growth on Hollyhocks with the presence of fungi, though it is quite possible there may be some relation. Ed.]

MARKET NOTES.

COVENT GARDEN.

The trade in pot plants is still very quiet. Heaths are plentiful and well flowered; White Marguerites are also good; Cyclamens fairly good, and selling at good prices; Chrysanthemums in pots are not now quite so plentiful, but there are some good plants, especially in whites, of which those of the Niveum type take first place. There are still some good "Ivory." Daffodils are already in season, also Tulips; Chinese Primulas good, but there seems little demand for them. Some good Euphorbias (Poinsettias), but these had suffered from the cold. Of Begonia Gloire de Lorraine, well-flowered plants seem to be selling better now. Ferns of all sizes are over-abundant; good

Maidenhairs in 48-size pots are rather scarce. It is remarkable that the only crested Fern now seen in any quantity is Wimsetti, and even this does not sell so readily as *Pteris cretica* major or other plain-fronded varieties. The dense habited varieties are evidently going out of favour. Palms are plentiful, but the trade in these has been very quiet for some time past. Large quantities of imported Aspidistras were observed, but at closing time on Saturday many remained on the stands. Hardy shrubs, including Cupressus Lawsoniana, Retinosporas and Thuyas, were procurable at low prices; cut flowers were not quite so abundant. In Chrysanthemums the white-flowered varieties were plentiful, and those with bright colours have been much inquired for. The variety Lord Brooke is a general favourite, and there is an improved variety of rather a deeper colour which will be worth looking after by all growers; Framfield Pink is bright in colour and sells well.

Roses are not now so plentiful, and good blooms make higher prices. Liliun longiflorum is plentiful and cheap, also Callas, but these will now advance in price as Christmas draws nigh. Cut Poinsettias—good heads of bracts were being offered very cheap; these are not much wanted until Christmas. Good Carnations sell well. White Azalea is plentiful. Lily of the Valley is making higher prices than a few weeks ago. Taking the supplies generally, there is no scarcity of anything, but trade is better; and there appears to be a good prospect for still greater improvement. A. H.

GRAPE GROS COLMAR.

The note of "A. D." interested me, as it will have done many more. The fine old variety, how many lives has it had these forty years? At one time a failure in mixed houses as grown for market and for lack of good management condemned and rooted out. I know where this has been done; but it is now being grown at the same place with decided success.

This day (December 4), at some of the leading large fruiterers' shops, I observed the price to be 1s. per lb. The cost of fuel has to be borne in mind; and Colmar will stand no stinting in that matter. I am also correct in stating that no other variety of Grape will bear heavily so continuously and remain in such good condition as Gros Colmar. A leading grower of experience said that he agreed with my statements in every particular, asserting that there is flavour in Gros Colmar if properly grown; and its cropping is of the heaviest.

Fine colour in this fruit is always a debatable matter; but there is a larger percentage of well-coloured Gros Colmar Grapes observed now than was the case some years ago.

In regard to another variety of Grape, viz., Melton Constable, I heartily endorse the last three lines of "A. D.'s" pithy note, but he has not one word as to flavour. When this variety was sent before the Fruit Committee of the Royal Horticultural Society in 1902, I had the opportunity of tasting the fruit, growing on a pot Vine, and I wrote at the back of my card, "Good—far above Gros Colmar," and handed the card to the man who had charge of the exhibit, Mr. Shingler not having come to town on that occasion. Being now interested in the distribution of this new seedling, I feel somewhat handicapped lest my remarks may be construed as an advertisement of its merits. There is, however, abundant evidence, written and otherwise, in possession of the person who is sending it out, showing that I do not stand alone in my opinion. I believe your correspondent, "A. D.," will find that he is not correct in his statement that "a Grape that is over in November is not a late one." It is, however, claimed for this variety that it is a late-keeping variety, being good in February. Having said so much about the Melton Constable Grape,

let me add for the information of "A. D." that plenty of Gros Colmar Grapes in my neighbourhood are kept till the first week of April, for all that he says the skin is thin. We know the old saying that any Grape will keep if it have a thick skin, a property that is only true to a certain degree. The mystery to me for many years was, how could such a thin-skinned fruit be kept hanging on the Vine or in the Grape-room? The real reason is to be found in the firm flesh and proper maturing of the fruit by artificial heat. Stephen Castle.

VARIATION, WILD AND CULTURAL.

THE ability of plants to vary to a marked extent from the normal type (as distinct from merely small individual differences) appears to be considered by many botanists as far greater under cultivation than under wild or natural conditions. To my mind, such is not the case, and I think that the impression has arisen from the fact that few scientific botanists have applied themselves to that close individual scrutiny of normal plants where they grow abundantly which is essential to the discovery of the usually isolated varietal specimens, and also to the fact that plants under cultivation are always in a peculiarly favourable position for the immediate observation of such departures by experienced observers. Hence as a general rule the marked variations or distinct "sports" which come under notice have originated under cultivation, and have thus given rise to the impression aforesaid. Ferns, however, and especially our British species, form an exception to this rule.

For more than half a century the search for varietal forms in their wild habitats has constituted a hobby with a considerable number of enthusiasts, and as a result a definite cult has been established, which has led to a reliable record being kept of such "finds" for practically the whole period. This being so, we have in the case of this very important section of the vegetable kingdom, a very fair opportunity of judging of its potentiality in the way of sporting, not only under cultivation by subsequent sowing and selection, but also, and principally, under the purely natural conditions which obtain in the native habitats where they are discovered. The result is literally astounding when the latest records of existing types are carefully analysed; and in Ferns, at any rate, confutes the idea of increased liability to vary being induced by the artificial conditions of cultivation; and also to my mind equally conclusively confutes the idea that change of environment is the main factor of evolution in the case of these "sports."

The most complete descriptive list yet issued is that of the late Mr. E. J. Lowe, F.R.S., &c., *British Ferns*, published in 1891, which is recognised by all who are conversant with the subject as a thoroughly reliable record to that date. I have recently carefully gone through this list, and analysed it, with the primary view of ascertaining the proportion of "wild finds" and "raised" varieties—i.e., forms subsequently raised therefrom—with the following result—viz., excluding the 40-odd normal forms, there are 1,849 varieties named and described, with the name of finder and the date and the locality of discovery. To this number must be added 241 repeats or separate finds of "sports" which too closely resemble previous finds to be discriminated, though found, be it observed, in quite different localities—i.e., 2,090 in all. Of this number 730 originated under cultivation, and no fewer than 1,360, or nearly double the number, were found wild.

Here then we have absolutely reliable and detailed evidence which cannot be gainsaid that plants vary at least as much under wild conditions as they do under the stimulus of cultivation; while as regards originality of type they

* *Journal, Board of Agriculture*, vol. ix., No. 3, 1902, pp. 320-323.

undoubtedly vary far more, for it is invariably under wild conditions that new types originate, and all that can be done by selective culture is to develop these on more marked lines, or to combine them by crossing. Nature, in fact, invents, so to speak, mainly, if not entirely, under normal conditions. When I say normal conditions, I mean those selfsame conditions as obtain where thousands of the normal specific forms exist, so that it is impossible to detect any predisposing cause, and still less any evidence that these departures from the normal type betray any better adaptation to the conditions around them than do their normal associates.

As a good number of "sports" have been found by roadsides in artificially erected stone dykes, &c., it might be urged that, to some extent, cultural conditions come in in the shape of manurial dust or special protection, &c.; but the great majority, on the other hand, though equally distinct, have originated on or in virgin moorland, mountain glens, rugged hillsides, and, in short, under conditions absolutely intact so far as humanity is concerned, and where nothing but purely normal relations exist between the animal and vegetable kingdoms.

Obviously, too, we may learn from the surroundings in these cases that the environment has been the same for ages; the "sports" grow side by side or are often intermingled with the normal specific forms from which they must have been derived, though whether by bud-sport or spore-sport it is, of course, impossible to determine. All we can see (and we speak from actual experience) is that here, amid crowds of common forms, is a single plant or a clump, or it may be even a little colony, of an entirely different type. The plants, moreover, when removed and placed under the vastly different conditions of even glass-house culture, remain absolutely unaltered decade after decade, and as a rule transmit their peculiar characters to their future offspring as constantly as any species could do. Some, it is true, are apt to vary again very much, but only to the extent of difference of degree as regards the typical abnormality; and rarely, if ever, does it revert to the normal through its spores if it be a thoroughbred find—i.e., does not belong to the "rogue" category of merely partial sports which are sometimes found with normal and abnormal fronds intermixed.

As regards the sudden or "per saltum" origin of very marked forms, there is practically no evidence against this. We may search in vain in the locality for anything intermediate which might be the parent. It is not, however, beyond possibility that comparatively slight variations of type may break into more marked ones through their spores under wild conditions, as they do under culture, for we have a case which points in that direction. A frond of a somewhat sagittate and crested form of Hartstongue was sent me from Cornwall, in which the basal lobes were lengthened and dilated, and the frond tip was divided several times, as in the common lobatum form so frequently found where the species abounds, the frond being otherwise a robust normal. I sowed from this wild frond and obtained a batch of plants, the bulk of which resembled the parent closely, but there were seven plants all alike and without any gradation forms, which had the bases and frond tips densely bunch-crested, and the fronds thereby so shortened as to bring the three crests near together into a triangular mass; two others went even farther and formed a ball at the end of a naked stalk. Several of the former are, moreover, proliferous on the frond surfaces, where a number of little plants are developing as I write. Had these been found wild I certainly should not have imputed them to the proper parent; and since the spores whence they originated were undoubtedly on a wild frond we have here certainly

one established clue to a possibility in other cases. It will be observed that these originated in the same pan as their brothers who adhered to the parental type, so that the argument of difference of environment and consequent response cannot possibly apply. It seems evident therefore that now and again a few or even a single spore on a normal or a slightly abnormal frond may be so modified as to produce a new type, or, at any rate, a form so greatly developed as fairly to constitute one. As it will give your Fern-loving readers a very clear idea of the relative variability of our native species, I append my analysis of Mr. Lowe's list hereto:—

VARIETIES.

Hymenophyllum ...	3	Polystichum angulare	384
Trichomanes radicans	13	Lastrea montana	77
Cystopteris ...	16	" filix-mas.	54
Adiantum capillus-Veneris	33	" pseudo-mas.	42
Allosorus crispus	1	" propinqua	28
Pteris aquilina	17	" cristata	5
Blechnum spicant	83	" dilatata & sub.	
Asplenium viride	12	sp.	53
" Trichomanes	27	Polypodium Phegopteris	6
" marium	28	" (?) alpinum	4
" ruta-muraria	18	" vulgare	75
" adiantum nigrum	16	Osmunda regalis	8
" fontanum	5	Ophioglossum vulgatum	2
" lanceolatum	12		
" Ceterach	27		
Athyrium filix-foemina	313		1849
Scolopendrium vulgare	450	Add "repeat" finds	241
Polystichum Lonchitis	5		241
" aculeatum	34	Total	2090

= 1380 wild finds and 730 raised under cultivation.

There are in addition a great many more found and raised since the publication of the list. Chas. T. Druey, V.M.H., F.L.S. [This communication should be read in connection with Prof. Hugo de Vries' observations on "Mutation" in *Oenothera*. Ed.]

WORN-OUT NURSERY LAND.

IN continuance of the subject of "Worn-out Orchards" from p. 33, we propose now to consider the question why young fruit-trees in nursery gardens may not be successfully raised continuously under good culture for a considerable number of years on the same land.

The object of this investigation by Professor Roberts was to determine the amount of fertilising matter removed from the soil by the growth of various kinds of nursery stock. As both tops and roots are removed when the trees are lifted and sold, they are both included in the present research, although the proportion of tops and roots is given separately.

Twenty-four Apple, Pear, Peach, and Plum-trees, six of each kind, were selected for experiment. They were thrifty and straight, had been dug with care, and were in every way suitable for planting in a fruit-orchard.

The tops were severed from the roots at the point corresponding with the surface of the ground, as the trees had originally stood in the nursery rows. The roots were washed and dried.

The following table shows the proportion by weight of the tops and roots of the four varieties of fruit-trees, six of each kind:—

NURSERY TREES.

	Weight of tops	Weight of Roots
Apple ...	44 lb.	32 lb.
Pear ...	40 "	35 "
Peach ...	41 "	25 "
Plum ...	38 "	22 "

DIMENSIONS OF GROWTH.

	Average height of Tops above ground.	Average length of Roots below the surface.
Apple ...	5 ft. 8 in.	1 ft. 10 in.
Pear ...	5, 2 "	1, 11 "
Peach ...	4, 6 "	1, 7 "
Plum ...	4, 11 "	1, 8 "

COMPOSITION OF THE TREES.

	Total weight of six trees.	Dry substance.
Apple ...	76 lb.	39 lb.
Pear ...	75 "	38 "
Peach ...	66 "	33 "
Plum ...	60 "	30 "

It is estimated that an average number of nursery trees per acre, taking one year with another, would be, of Pears, Cherries, and Plums, 5,000; and of Apples, 8,000. The following table is compiled from these estimates and the foregoing data:—

Table showing the amount of fertilising constituents removed from an acre of nursery fruit-trees occupying the ground for three years:—

	Nitrogen	Phosphoric acid	Potash
Apples ...	29.1 lb.	10.1 lb.	19.7 lb.
Pears ...	24.8 "	7.8 "	13.3 "
Peaches ...	22.4 "	5.4 "	11.8 "
Plums ...	19.8 "	4.4 "	11.5 "

These results show conclusively that but a small amount of plant-food is removed from the soil by the growth of nursery stock. The data also shows that the largest quantity of food ingredients is removed by Apples, the second most exhausting tree being the Pear. But any ordinary fertile soil cultivated as nursery lands usually are, should easily furnish in three years ten times the amount of plant-food used by the trees; and yet nurserymen seldom follow nursery trees with nursery trees, as it is said that they never do well unless one or more crops of Clover or Grass or something similar intervenes.

Since land which is intended for nursery fruit-trees is usually highly manured, summer fallowed, and cultivated an entire season before the trees are set, and since it is well known that much of the fertilising substance added to the land and made available by manuring and ploughing is still in the soil after the first crop of trees has been removed, the question arises, Why do not nursery trees follow nursery trees kindly?

At the Rothamsted Experimental Station, Wheat has been grown for sixty years in succession on the same land, one $\frac{1}{2}$ -acre plot having received no manure of any kind during the whole of this long period. Barley has been similarly grown for fifty-one years, Mangel-Wurzel for twenty-eight years, and Potatoes for twenty-six years, each without any intervening crop. In all these cases there are no indications that the plants have exuded anything from their roots which is deleterious to subsequent plants of the same species, neither are there any indications that under superior culture, with or without fertilisers, reasonable success might not be secured without a rotation of crops. Of course it is well understood by the thoughtful investigator that there is usually great economy in a rotation of crops, for various reasons which it is not necessary to state here.

Two reasons have been assigned for the failure to raise successfully nursery stock continuously on the same land. The first is, that the trees have exhausted all the readily available plant-food, and since nursery stock, to be at its best, must have an early and rapid growth, it is impossible without weathering the land and allowing some of the plant-food in the subsoil to rise to the surface, to secure satisfactory results. It should be kept in mind in this connection that under proper culture and conditions, in dry weather, nitrogenous plant-food rises from the subsoil to near the surface, while in very wet weather it may pass from the surface downwards.

Nursery trees get a large proportion of their nourishment from the subsoil, and during the few years that the ground is occupied by them a portion of the available plant food in the subsoil is used. This would explain in part the difficulty of using land continuously for growing young trees.

Another reason has been assigned for the fact: nursery lands in trees are not always cultivated when the soil is in the best condition. So much has always to be done in the spring of the year, that the intervals between the rows are often ploughed when the land is too wet or too dry. Again, the digging of the trees is usually performed late in the autumn or early in the spring, when the soil is little better than a mortar-bed. The digging and trampling, especially on clay soils, when the land is in this condition, puddle it, and the larger part of the available plant-food is thereby locked up; and it requires one or two years of culture, and even manuring, to bring the land back to its normal condition. But all these explanations do not fully account for the imperfect growth of the second crop of trees, for after having removed the trees from the land, if it be thoroughly ploughed and cultivated, there appears to be no difficulty in raising a good crop of Wheat, Barley, Grass, or Potatoes.

In the haste to get the trees off at as early a period as possible, the grower is not satisfied unless they are making a rapid, continuous growth; that is, he asks more of the land in his method of culture than does the Wheat or Potato-grower; and therefore, as soon as the land hesitates in the least when planted with a second crop of trees, he puts it down as a partial failure.

This explanation is emphasised by the fact that many orchardists have come to believe that nursery trees under present management are forced so rapidly, and make such soft growth of wood, that they are injured thereby. Those trees which have been forced to unusual growth, when set in the orchards under less favourable conditions than were present in the nursery row, start slowly, and frequently are unable to make a satisfactory growth of good wood for two or three years.

It has been found that an application of wood-ashes and lime (air-slacked), 25 to 30 bushels per acre, greatly assists the land in maintaining a nursery stock of fruit-trees. Apple-wood always improves with wood-ashes and lime, even on limestone lands. *J. J. Willis, Harpenden.*

TREES AND SHRUBS.

SYMPLOCOS CRATÆGOIDES.

Not much appears to be known in English gardens of this beautiful Japanese shrub. It is quite hardy at Kew, and has been cultivated there for the last twelve years at least. It also thrives exceptionally well with Mr. B. E. C. Chambers in his garden at Grayswood Hill, Haslemere. I saw it there last May very full of flower. Its nearest allies among hardy trees and shrubs are the *Styraxes* and *Halesias*. At present a bushy, compact shrub, it is said to become eventually 10 feet or 12 feet high, and it will therefore probably form a low tree in time. The leaves are deciduous, ovate or obovate, varying from 1 inch to 2½ inches in length, slightly pubescent beneath, and finely toothed. The flowers are borne on short terminal spikes, measure about one-third of an inch across, and are white. It was figured in *Garden and Forest* for 1892, p. 89, and it is said there that the most remarkable feature of the plant is its fruits. They are small, but of the most "beautiful and brilliant ultramarine blue," and the branches are covered with clusters of them in autumn. The species has not fruited at Kew within my recollection, but may possibly have done so with Mr. Chambers or with Messrs. Veitch—in whose nursery at Coombe Wood it also succeeds well. Being spread over a wide area—from the Himalayas to Japan—it shows, as might be expected, considerable variation in foliage and habit. Most or all of the

plants in cultivation are of Japanese origin. Several other species have been introduced, one of which is *S. tinctoria*, the "Horse-Sugar" of the Southern United States, but *S. cratægoides* is the only one that I know to be quite hardy. *W. J. Bean, Kew.*

ORCHID NOTES AND GLEANINGS.

MALFORMED HYBRID CYPRIPEDIUM.

FROM the Coloniale Horticole of Brussels we have received a flower of a hybrid *Cypripedium* from which the lip is entirely absent. The flower has thus, in appearance at least, that binary arrangement which is so common in malformed Orchids.

CATTLEYA LABIATA, HOLFORD'S VARIETY.

A flower of this beautiful variety is sent by Mr. H. Alexander, Orchid grower to Captain G. L. Holford, Westonbirt, Tetbury, who states: "The plant is a small one, but carries five flowers; and although we have had a splendid lot of *C. labiata* in bloom this year, there is nothing among the coloured ones equal to Holford's variety, either in size, colour, or good shape." The flower is 7½ inches across, the petals nearly 3 inches at their widest, and the showy labellum very remarkable, as it is broad, crimped and fringed, with a yellow patch merging into white on each side of the lower part of the front lobe, closely imitating *C. Warscewiczii*. The sepals and petals are bright purplish-rose; the base of the lip orange coloured, with lighter lines extending into the light patches in front of the side lobes before alluded to; front of the lip ruby-purple with rose margin.

The Week's Work.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Shrubberies.—Though winter is not the best season for pruning shrubs, expediency often decides the matter, as then the labour necessary can be best afforded; and unless the work is carried out in times of very hard frosts no harm is done. Shrubberies are too often neglected for many years, and the quicker-growing and more vigorous shrubs permitted to encroach upon and spoil those that, if allowed space, would give a much better effect in after years. The common Laurel is one of the worst offenders in this respect, and if planted in mixture with other shrubs it should be cut back sufficiently hard every winter to prevent damage, until at last it may be grubbed up. Rhododendrons when neglected for many years get tall and leggy but are very amenable subjects for pruning, as they break anew freely not only from the stools, but the long branches, if slashed halfway through at a convenient height and then pegged down to the ground, fill up in a year or two with dense and healthy growths. Of course this applies mostly to the Ponticum type, not grown so much for its flowers as to provide shelter and seclusion; but all classes of Rhododendron may be freely pruned, though by being cut hard back, a year of flowering is lost, and in the case of the better varieties the work of shortening back should be carried out judiciously and not in a wholesale way. It may be advisable to make clearances in certain spots; and when this is the case the stumps should be grubbed out, the ground broken up as much as the roots of neighbouring shrubs will allow without injury, and the plots planted with bulbs, hardy Cyclamen, common and Dogstooth Violets, Primroses, Solomon's Seal, and any other plants that enjoy partial shade. One danger in wholesale cutting in shrubberies is the letting in of sharp air currents; but only observation will tell what harm may be done in this way. A caution that may be given is that in hilly districts every case should receive proper consideration before cutting down or through any

wind-breaks, screens, &c., especially on the side whence come the most prevalent winds. In most cases it is prudent to carry such operations over a series of years, so that a portion of the shrubbery will have time to get up again before the rest is cut down. In getting rid of prunings and other debris a smother-fire is a great aid, and should be made on the spot, if that be possible without danger to shrubs and trees. The slow combustion will leave a large quantity of ashes of great value in the garden, and, on the other hand, a quick fierce fire is wasteful and often dangerous.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

Cymbidiums are amongst Orchids the easiest to cultivate when treated as inmates of the cool intermediate-house. The flowers of *C. giganteum*, and the hybrids *C. Tracynum* and *C. Winnianum*, are now fully expanded, and they will last in good condition for a considerable length of time, and are choice additions to the Orchid flora at this season of the year. The varieties that flower during the late winter and spring, viz., *C. Lowianum*, *C. L. concolor*, *C. grandiflorum*, *C. eburneum* and its hybrid, *C. eburneo-Lowianum* and *C. Lowi-eburneum*, having finished their growth, many of the flower-spikes have become visible. All of these plants make strong roots, and while making their growth during the late summer and autumn months they should be afforded abundance of water at the root, as well as overhead; but when winter has set in it is good practice to omit the latter, and reduce the quantity of root-moisture considerably, but never to allow the plants to suffer from dryness at the roots for any length of time. If a good porous compost be employed as that advised in a former Calendar, very little difficulty will be felt in affording water during the winter.

Celogyne cristata and its varieties *alba* and *Le-moineana*.—The season's growth being now complete, place the plants in a cool intermediate-house, and afford but very little water at the roots. Wintered in such a house, the flower-spikes will not expand before the end of the month of March, which is an advantage, as it enables the gardener to keep up a succession of flowers for a considerable length of time by removing a few plants at intervals into a warmer house after the new year. Any plants which were broken up and potted this year should not carry flower-spikes, it usually taking two seasons to re-establish such plants and fit them for flowering.

Lælia pumila, *L. præstans*, *L. Dayana*.—These species afford the best results when grown in a cool house. The flowers (which are produced on the partly-developed growths) are now past, and the pseudo-bulbs filled up; and whilst the plants are at rest at this season water should be sparingly applied—only sufficient to prevent the pseudo-bulbs from shrivelling.

Epidendrum vitellinum.—This most attractive plant should occupy a similar position to the foregoing, and where there is full light and good ventilation. During the present season, in which the plant rests, very little water at the roots is needed.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Herbaceous Calceolarias should not be allowed to get pot-bound before being repotted, the pots used being 8 or 9 inches in diameter, the weaker plants going into 7-inch pots. In handling the plants take care that the leaves are not broken or bruised; make the soil fairly firm, and let it be similar to that recommended in my Calendar for October 17. *Calceolarias* are the better for being vaporised every two or three weeks with XL-All.

Hydrangeas.—The white-flowered variety responds readily to gentle forcing, and a few well-established plants may be introduced forthwith into a temperature of about 50°, standing them near the roof, and affording but little water at the root before active growth begins. The remainder of the stock should be put out of the reach of frost, and kept comparatively dry at the root.

Fern-house.—A night temperature of 60° (55° on cold nights) will suit most of the so-called stove Ferns whilst growth is nearly inactive. The gold and silver Gymnogrammas, being the most susceptible to a low temperature, should be placed at the warmer end of the fernery, and only afforded water when it is absolutely necessary; while many species of *Adiantum* and several of *Davallias* require but little water during the winter. Any Ferns that are infested with scale should be examined, and the insects dislodged with a pointed bit of stick or rubbed between the finger and thumb.

Palms.—Where a house is devoted to Palms, and these are planted in the borders, the winter is a suitable season to cleanse the foliage with a sponge and warm soapy suds. In lofty structures it is almost impossible to keep the tops clean with the hose or syringe. Although Palms do not require so much water now as in the summer, the soil should not be allowed to become very dry. A night temperature of 60° to 65° should be maintained.

Chrysanthemums.—During the next three or four weeks cuttings should be inserted either singly in 60's or three or four around the sides of 3-inch pots. Under the first method the plants receive no check when repotted, which is an advantage; but cuttings of most kinds of plants form roots quicker when placed near the edge, rather side, of the cutting-pot than others in the centre. Plants that will be grown for large or exhibition blooms are the first to demand attention. The cuttings should be made about 3 inches in length, free of flower-buds if possible, and be cut straight across below a joint, and made firm in the soil. The latter should consist of about equal parts of loam and leaf-soil, with a large proportion of silver-sand. When a few pots are finished, apply water with a fine-rose water-can, and stand them in a frame, or under handlights placed in a house where heat may be afforded to keep out frost. Let the lights or tops be removed for half an hour every morning, in order to dispel moisture. Varieties shy of sending up suckers ought not to be cut down too closely; and all stools required for stock purposes should be stood near the glass, and water applied to them when the soil has become dry. Keep the late-flowering varieties as cool as possible, so as to prolong their flowering.

FRUITS UNDER GLASS.

By T. H. C.

The Pine-stove.—The cultural details given last month are applicable generally to the Pine-stove at this date, and the chief thing to be avoided is high temperature, except in the case of fruiting plants, at the same time the minimum temperature should not fall below 55°. Queen Pines, which have been resting previous to starting, should have the hot-bed pit renovated if the material is not capable of producing a bottom-heat of 85° when the plants are started at the beginning of next month. When starting make sure the soil in the pots is thoroughly moistened with clear tepid water, two or three applications being usually required for this purpose, previously having made sure that the cavity formed by the shrinkage of the soil from the sides of the pot is filled up and rammed firmly. Fruiting plants swelling off their fruits must be supplied with plenty of farmyard liquid-manure or an artificial fertiliser whenever moisture at the roots is necessary, this being applied till the fruit begins to ripen, when clear water only is wanted, and withholding water entirely during the final stage of ripening. Afford a night temperature of 65° to 70°, and a rise of 10° by day. Afford fruiting plants with swelling fruit a moist atmosphere by damping paths and other surfaces three times daily; but ripening fruits finish best in a perfectly dry atmosphere. Although potting is seldom carried out at this season, suckers should not be allowed to become pot-bound in small pots, this causing a stunted growth and often premature fruiting, therefore let any plants sorely in need of a shift be repotted.

Suckers, when of suitable size for propagating, should be detached from the fruiting plants, potted into 5-inch pots and plunged in the propagating pit in a bottom heat of 85° and a top heat of 60° to 65°.

Figs.—Those trees in pots started in November may be afforded an increase in the night temperature of 55°, with a 10° increase by day. If the weather be very severe, a few degrees less will be better for the time being. The hot-bed formed of leaves and litter should be turned and fresh material added if necessary to bring up the heat to 75° and 80°. Keep the air moist by damping down, and syringe the trees twice daily in fine weather, i.e., in the morning and early afternoon. Make the most of sun-heat, it being seldom necessary to afford ventilation at this season. It is most important that water be carefully applied, and it should always be tepid, as any check given now is very much against a satisfactory first crop of fruit. As the foliage begins to develop and the roots become more active, afford diluted liquid-manure from the cow-sheds, and occasionally a teaspoonful of *Le Fruitier* pricked into the surface-soil of a pot. The early planted-out Fig-house may be got in readiness for starting at the beginning of the year, commencing with a temperature of 50° at night and 60° by day. Proceed with the pruning and cleansing of trees in succession houses, and let the glass, woodwork, walls, &c., receive their annual cleansing and such repairs as are necessary. If the trees have not been in a fruitful condition through defects in the borders or the roots not being under proper control, see that these matters are attended to before the house is started.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. PIGOTT, Bart., Wexham Park, Slough.

Spring Cabbage.—Many of the plants are very forward, and it is to be feared they will suffer greatly unless well protected by drawing the soil up to the stems when the land is workable. In land at all rich or very light, I would advise the practice of trampling round each plant close up to the stem, and then to mould-up from the intervening spaces, bringing the soil well up to the lower leaves. Lift late-sown plants in the seed-bed if the weather be open, and prick them out in rows at 6 inches apart, and they will winter much better than in the crowded seed-bed, and prove of service as a succession to the earlier plantings, or to fill vacancies in the autumn-planted beds.

Spring Cauliflowers growing in pots, frames, or handlights should have abundance of air whenever there is no frost or heavy rain. Stir the soil occasionally with a hand-fork or pointed piece of wood, and trap slugs. Dry protecting material should be held in readiness for use during very severe frosts.

Hot-beds for forcing vegetables should now be made in the frame-ground, making them of tree-leaves and stable-litter, or tree-leaves alone, when the bed is constructed in a brick or turfen pit. For forcing Carrots, Radishes, Asparagus, and the like, a very little heat is required, and it is preferable to err in having the beds too cool than too hot, as in most cases the warmth can be raised by means of linings of fermenting materials. A good mixture consists of three parts fresh-fallen Oak or Beech leaves, and one part of long stable litter, all being well mixed and turned over several times before the hot-bed is made up. Beds for carrying a frame or frames built above the ground should be 2 feet wider and longer than the frames. Some time must be allowed for the heat to get up, and nothing should be sown or planted thereon till the heat has declined to 80°.

Carrots.—Although for very early supplies hot-water pits, wherein a bed of leaves can be placed to the depth of 3 or 4 feet, is the most convenient, good roots may be grown on hot-beds made up in a proper manner and of suitable materials. A mixture of light loam, leaf-soil, spent Mushroom-bed manure, and road grit in about equal proportions, well mixed and passed through a sieve, should make a suitable soil. This should be brought up to within 8 or 10 inches of the glass and made moderately firm. The seeds should be sown in drills drawn from 6 to 8 inches apart, and the seeds covered very lightly with finely-sifted soil, which should be sufficiently moist to do without water until the seed germi-

nates. Carter's Early Long Forcing, Sutton's Inimitable Forcing, Parisian Forcing, and Veitch's Model, are all good varieties for present sowing.

Radishes may be sown on similar hot-beds in small quantities about every ten days. These may be sown broadcast or in drills 3 inches apart. Extra Early Olive, Sutton's Early Frame, and Wood's Frame are reliable sorts for early forcing.

Asparagus.—Any roots that are beginning to produce weak shoots should be replaced with others. After planting, afford tepid water copiously to settle the soil. Air should be given by tilting the lights night and day as far as the heat of the bed will allow, or the growth will be drawn and without much flavour. The heat of the frame should not exceed 60° or 65°, and the glass of the frames should be covered with mats on cold nights, and on frosty nights a covering of long, dry stable-litter or fern should be added.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Pruning Orchard Trees.—Worn-out, aged and neglected trees are to be found in most orchards of long standing, and any trees of this description should be, if in fairly good health, carefully pruned and cleansed from moss and parasitic plants. In pruning let intercrossing branches be removed to within $\frac{1}{2}$ an inch of the stem, and the wounds trimmed with a pruning-chisel, and if of large size coated with slate-coloured paint or Stockholm pitch. Moss can be best removed by a piece of bent hoop-iron, or a stiff brush. The centre of the crown should be rendered clear of brush-wood and small growths, in order that the sun's rays may penetrate it. It is the practice in some gardens to whitewash the stems and main branches of the trees, and in very humid districts this certainly prevents the growth of lichens and moss. A better method is to spray with an alkali-wash early in February, doing this when there is no frost, as by this means the young wood as well as the trunk and main branches will be cleansed. Aged and otherwise useless trees should at this season be grubbed up and young trees planted to take their place; and if, on the same site, the soil should be removed to the depth of 2 feet, and width of 5 feet, replacing it with sound loam, and in the case of stone fruits adding a large proportion of plaster or mortar rubble. Strong-growing spreading varieties of Apples should be planted at 24 to 30 feet apart; and Pear and Plum trees at 16 to 20 feet, according to habit. If the orchard be under grass and fed off by sheep or cattle, the aged trees, after being pruned, should receive an abundant dressing of farm-yard manure, and manure-water afforded if it be obtainable. This liquid-manuring will benefit the trees if applied at the present season during mild weather.

Pruning Bush and Pyramidal Apple and Pear Trees.—In mild weather push on with this sort of work. The varieties of Apple, as Cornish Gilly-flower, Irish Peach, and a few others, that fruit on the spurs and at the ends of the shoots, should be noted when pruning. In the case of trees which have not attained to their full size, the leading shoots should be cut back to the length of 1 foot, taking care to cut to an out-standing bud pointing in the required direction.

A CORNER IN CLOVES.—It would appear that "that sort of thing" is not confined to Chicago or New York, or restricted to pork, Wheat, or Cotton, for it has sprung into existence at Zanzibar, and the article is Cloves. Sundry reports are to hand on the subject, but the summation as to the curse of market vagaries is "cornering." Before harvest-time, says one reporter, an Indian gentleman—or a gentleman from India—appeared on the scene, Zanzibar and Pemba, and it was thought there would be a shortage in the crop; harvest came, and there was a shortage in the crops, and prices eventually reached a very high figure; and when the gentleman from India returned home he must have done so much wealthier than when he ventured forth to corner Cloves.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the **EDITOR**, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Local News.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Illustrations.—The Editor will be glad to receive and select photographs or drawings, suitable for reproduction, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.

APPOINTMENTS FOR THE ENSUING WEEK.

WEDNESDAY, DEC. 23—Royal Botanic Society's meeting

FRIDAY, DEC. 25—Christmas Day.

SATURDAY, DEC. 26—Bank and General Holiday.

SALES FOR THE WEEK.

MONDAY, DEC. 21—

Bulbs, Plants, Lilliums, Perennials, Border Plants, &c., at 11 o'clock, at 67 and 68, Cheapside, E.C., by Protheroe & Morris.—Absolute clearance sale of Greenhouse Plants at the Brampton Nursery, Bexley Heath, by Protheroe & Morris, at 11 o'clock.—At Stevens', at 12.30, Roses, Standards, Half-standards, and Dwarfs; Fruit Trees, Azaleas, &c.—At 2.30, 100 cases of Japanese Lilies.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —38°.

ACTUAL TEMPERATURES:—

LONDON.—Dec. 16 (6 P.M.): Max. 45°; Min. 41°.
Dec. 17 (noon): 47°; foggy and dark.

PROVINCES.—Dec. 16 (6 P.M.): Max. 41°; Bath: Min. 40°, off Dunbar.

The Annual General Meeting of this flourishing Society was held, on Thursday, Dec. 10, at the Horticultural Club Rooms. Mr. C. SHEA presided over a very large and earnest body of representative men. In the course of the proceedings proof was once more given of the whole-heartedness of the members of this Society. There was no sense of indifference, or "go as you please," or "support the Council," but a genuine personal interest was manifested in the affairs of the Society. Discussion was free and abundant, but never personal or acrimonious. The financial situation was shown to be satisfactory. The Temple Rose show was alluded to as not of first-rate importance, but for that the weather was responsible, and if the "gate-money" was relatively deficient in amount, that slight defect was much more than compensated for by the large addition of new members, a fact which showed that large numbers of the casual visitors of the preceding year had ripened into full-blown members this year. The Glasgow show was spoken of in high terms, the later date having been influential in the production of more numerous and finer blooms. In the course of the Chairman's speech, in moving the adoption of the report, we were gratified to hear an expression of opinion that a less formal method of exhibiting Roses must soon be generally adopted, and that the boxes must, sooner rather than later, go the way of other abominations, like the Chrysanthemum-boards and the paper collars for Carnations. One of the speakers suggested that these productions, before

they are quite extinct, should be deposited in some museum for the edification and astonishment of those that come after us.

But the main subject for discussion was the date at which the Metropolitan show should be held. Mr. PEMBERTON submitted a resolution that the show in question should not be held earlier than July 6, fortifying his proposal with eloquent and emphatic words to the effect that an earlier date was prejudicial to the display of good Roses, and unfair to the growers in the Midland and Northern Counties, who could never, or rarely, compete on fair terms with Southern growers. Mr. PEMBERTON produced an array of figures in support of his proposal, and subsequent speakers adduced other figures, showing this, or demonstrating that, till it became as difficult for the ordinary members to assess the proper value of the statistics laid before them as it is in the case of the fiscal problem itself.

Mr. PEMBERTON had a no less formidable opponent (though such an expression is hardly the correct one) in Mr. MAWLEY himself, who proposed an amendment to the effect that the show in London should not be held earlier than July 3, nor later than July 12.

Numerous subsequent speakers supported, some Mr. PEMBERTON, others Mr. MAWLEY. All seemed to adduce excellent reasons for their opinions, and it seemed as if there really was not much choice between the two sets of speakers, and that opinion was fairly evenly balanced between them. When, however, the patient, long-suffering Chairman at length put the matter to the vote, it became evident that the Pembertonites had a considerable majority over the Mawleyites, and as the Chairman was aided in the not too easy process of counting hands by the Rev. FOSTER MELLIAR, there was no sort of doubt possible as to the opinion of the majority of the members present.

Looking back to the proceedings, and bearing in mind the arguments made use of *pro* and *con*, it seems to us now that, after all, there is not much intrinsic difference between Mr. PEMBERTON's proposal and Mr. MAWLEY's compromise; and that in practice the result will be such as to satisfy all reasonable requirements. It is impossible to fix a particular date which will, in our climate, be likely to suit equally well exhibitors from Aberdeen or Belfast, and those whose products have been grown at Bath or Torquay.

Among other matters of interest it was stated that no provincial show will be held in 1904, but that an autumnal show will be held in September in the new Horticultural Hall. It is expected that this will be the first large show in the Hall. We welcome the proposal for many reasons. The time of year will probably be propitious for late blooms, and it is of excellent augury that the daughter society should be among the first to grace the house-warming of the venerated parent. We deprecate the complete separation of the so-called "special" societies from the Royal Horticultural Society, but think there should be the fullest co-operation possible between the body and the members. In this particular matter we are for special home rule combined with imperial unity, and therefore it is with the greatest pleasure that we see so many evidences of goodwill and co-opera-

tion between the Rose Society and the Royal Horticultural Society.

We suggest, moreover, that it would be a graceful and appropriate thing if the Rose Society, and, indeed, all the affiliated societies in the kingdom as well as the special societies, should either in their corporate or in their individual capacities contribute as largely as possible to the fund being raised for the completion of the building. The statement that not more than one in ten of the Fellows of the Royal Horticultural Society have contributed anything to the New Hall after all the clamour that was made, is disappointing in the present and ominous for the future. What if the provincial and the special societies came to the rescue and proved practically, what we know theoretically, that they are not open to a charge of heresy and schism!

Reverting to the proceedings of the meeting which have suggested these remarks, we have only to add that the usual formal votes of thanks and other business was got through, with one exception, and that one was that, owing to the length of the proceedings, the dinner was ready before a vote of thanks was carried to the Chairman! He deserved it, as everyone must have felt, though the exigencies of time and circumstance may have prevented its full expression.

**** OUR ALMANAC.**—According to our usual practice, we shall shortly issue a *Gardeners' Chronicle Almanac* for the year 1904. In order to make it as complete as possible, we shall be obliged if Secretaries of Horticultural, Botanical, and allied Societies, or any of our correspondents, will send us IMMEDIATE INTIMATION of all fixtures for the coming year.

MERYTA SINCLAIRII (Supplementary Illustration).—*Meryta* is a genus of some half a dozen species, three of which have long been grown in gardens as *Aralias*, namely *M. Denhami* (*Aralia reticulata*), *M. latifolia* (*Aralia macrophylla*), and *M. sonchifolia* (*Aralia sonchifolia*). The first-named is used as a stock on which to graft some of the fine-leaved *Aralias*, such as *A. Veitchii*; and those who know it only as a pot plant with linear, dark-green, yellow-veined leaves would be surprised to see a fully developed specimen in the Kew Palm-house, where it has a stem over 20 feet high and broad, fleshy, bright green leaves over a yard long. *M. Sinclairii*, of which a figure is here given, is a New Zealand species. There is an interesting account of it in the *Gardeners' Chronicle*, 1898, xxiv., 344, 370, where it is described as a fine ornamental tree, 12 to 25 feet high, with stout branches and large leaves; the blades from 9 to 20 ins. long and from 4 to 10 ins. wide, of a thick texture and bright green colour. It is known as the "Puka" by the Maoris, and is said to be "one of the rarest plants in the world." Under cultivation in New Zealand it forms a handsome symmetrical tree, with a trunk over 4 feet in circumference. There is a healthy example of it in the Temperate-house at Kew, where it grew from a height of 3 feet in 1898 to 10 feet before it flowered last summer for the first time, when the figure here published was prepared by Miss M. SMITH. The male and female flowers are produced on separate plants, the Kew example being a male. The flowers are borne in a large terminal panicle, and are of a dull greenish-white colour. Plants are easily raised from cuttings. It is said to be unable to resist frost in New Zealand. There are plants of it in the open air in several Cornish gardens; it would be interesting to know how they have behaved. The above information is kindly furnished by Mr. W. WATSON, of Kew.

TURIN HORTICULTURAL EXHIBITION.—We have received a prospectus of the exhibition to be held in Turin next May, under the auspices of the Société Royale Horto-Agricole du Piémont. The exhibition will be opened on Tuesday, May 10, 1904, and will remain open for a fortnight, after which the exhibits may, if wished, be left on sale until the end of the month. Intending exhibitors, especially those residing out of Turin, are informed that they can now apply for either outdoor or indoor space for their plants, &c.; a plan of the exhibition being issued with the prospectus. Planting can, therefore, if the weather permits, be undertaken in February or March for trees and shrubs, while bulbs and tubers can be forwarded at any time to agents in Turin, who will pot and winter the same until the planting season commences. Every convenience is thus offered to intending exhibitors. The President of the Executive Committee is the Comte de SAMBURY; the Commissaire-Général is G. JOSEPH RODA; the Secrétaire-Général is S. PAUL PALESTRINO, 4, Rue Stampatori.

A NATIONAL POTATO SOCIETY.—In view of the enormous advance in the price of Potatoes this season, the heavy losses from disease, and the importance of the crop, a project has been mooted for establishing a National Potato Society. A public meeting will be held in the North Room, Hotel Windsor, Victoria Street, Westminster, on Wednesday, December 30, at 3 P.M., to fully discuss the matter.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held in the lecture hall of the Institution on Monday, January 11, 1904, when a discussion will take place on the paper read by Mr. H. T. SCOBLE (Professional Associate) on November 23, entitled "Industrial Decentralisation, an important factor in the solution of the Housing Problem." The chair will be taken at 8 o'clock. Council Gold Medal—With a view to encourage the reading of papers at the ordinary general meetings, the Council have decided to award a Gold Medal for the best paper, if of sufficient merit, read by a member of the Institution during the session.

AN INTERESTING AGED PALM.—Our contemporary, *The Chemist and Druggist*, writes Mr. J. R. JACKSON, which possesses a remarkable amount of activity in procuring home, colonial, and foreign items of interest for its readers, has the following note from Berlin. It states that amongst the plants which have been transferred from the large winter-house of the old Berlin Botanical Gardens to the new gardens at Dahlem is a very old example of *Chamerops humilis*, which is of quite historical interest, as it is said to have been in Berlin in the middle of the seventeenth century. The plant was used about the middle of the eighteenth century by Mr. J. G. GLEDITSCH, who was in 1746 appointed Director of the Berlin Botanical Gardens, to finally settle the dispute that was then going on regarding the sexuality of plants. The plant, which is a female, had blossomed repeatedly without bearing any fruit, so GLEDITSCH brought pollen from a male *Chamerops* growing in Dresden, and sprinkled it on the stigma of his specimen. Although the pollen was nine days on the way GLEDITSCH was successful in fructifying the ovules, and he raised eleven young plants from the seeds obtained in the following year. GLEDITSCH renewed the experiments several times successfully, once with pollen obtained from Karlsruhe.

GINGER IN ZOMBA.—Mr. McCLOUNIE, the Government horticultural official in the Central African Protectorate, states that this product is giving great promise of being worthy of extensive cultivation. The climate is eminently suitable.

As 40s. may be reckoned on as about the average London price per cwt., it ought to be largely grown. Propagation is an easy matter, and it has been proved that from one crown it is possible to obtain over twenty good strong shoots in a year; and it is estimated that it is possible to get half a pound of ginger from each plant in the same period.

THE "BOTANICAL MAGAZINE."—The volume for the present year is dedicated by Sir JOSEPH HOOKER to Mr. GEORGE NICHOLSON, in a graceful and appropriate dedication, as follows:—

"Dear Mr. NICHOLSON,—It gives me great pleasure to dedicate to you a volume (CXXIXth) of the 'Botanical Magazine,' a work in the prosecution of which you for so many years took an active part, especially in selecting for illustration in its pages subjects of botanical interest from amongst the treasures under your supervision in the Royal Gardens. I would further wish you to regard it as a memorial of our official co-operation in the management of those gardens for upwards of twelve years, a period to which I look back with unalloyed pleasure; and also as a tribute to the high value of your special labours in Dendrology, and as the author of the 'Dictionary of Gardening.'

"Believe me, very sincerely yours,

"JOS. D. HOOKER."

"FLORA OF THE UPPER GANGETIC PLAIN."—

Mr. DUTHIE, the former Director of the Botanical Department of Northern India, and now on the staff of the Kew Herbarium, has published the first part of a Flora of the whole of the Gangetic Plain as far as the confines of Bengal, and including the Siwalik and Sub-Himalayan tracts. The work seems to follow the general model of the *Flora of British India*, and is provided with a map. The price of the book seems high, but as it will probably appeal to a limited class this is perhaps unavoidable. Mr. DUTHIE's exceptional opportunities and endowments afford a guarantee of the excellence of this work, the first part of which extends from the Ranunculaceæ to the Cornaceæ. It may be obtained from WILLIAMS & NORGATE.

CACTUS DAHLIA PRINCESS DE TRABIA.—

M. VINCENZO OSTINELLI, of Palermo, kindly forwards us a photograph of a new Cactus Dahlia, raised by him, and named in compliment to the lady whose name it bears. The florets are ivory-white, rather irregularly disposed, narrow, and the central ones not fully developed. The flowers are large and well raised above the foliage.

DISEASES OF THE VINE.—M. OCTAVE DOIN, of the Place de l'Odéon, Paris, has published a small treatise written by M. GUÉGEN, and entitled *Les Maladies parasitaires de la Vigne*. It comprises a brief account of the diseases and injuries caused by bacteria, fungi of various kinds, as well as by certain insects. It has a table of contents but no index, which is a defect even in so small a book. As to the mysterious disease called *brunissure*, or browning, we had settled down to the notion that it was caused by a slime-fungus (*Myxomycete*). But this notion turns out to be founded on an error of observation, and no true slime-fungus exists; moreover, the disease has been artificially produced by sudden alterations of temperature and humidity, as well as by mechanical injury. If the temperature has been high, spraying with water will restore the balance in the cells of the leaf; if there has been too much moisture, the use of powdered lime will be beneficial. We fear that these explanations will hardly cover all the cases met with in English vineries, and we regret we must still say the disease is mysterious. As a compact hand-book on the diseases of the Vine this may be recommended to those to whom the language in which it is written (French) offers no bar. The illustrations are serviceable to gardeners of all nationalities.

"BOLETIM DA SOCIEDADE BROTERIANA."—

The last part of this Portuguese publication which has reached us contains a very interesting and detailed article on the botanical geography of the plains and hills near the sea coast of Portugal, by M. DAVEAU. It is written in French. The *Flora of Brotero* was published in 1804, and is still valued for the precision of its details. Moreover, it is still the only complete Flora of Portugal. WELWITSCH, 1840—1852, explored many parts of the country thoroughly; and since his time Dr. HENRIQUES, the founder of the Brotero Society, has by his zeal and energy done much to extend our knowledge of the flora. There are still, however, large areas not perfectly worked up, owing mainly to the difficulties of locomotion in some of the provinces. It is singular to read that the Beech is not a native of Portugal, though erroneously cited as such by WILLKOMM. Portugal may be divided into four zones of vegetation—1, littoral; 2, plains and hills near the sea; 3, mountainous; 4, sub-alpine. In the south-west and in Alentejo is a botanical district containing a larger proportion of special or endemic species than any other in Europe. Here are gathered together numerous Leguminosæ, Cistaceæ, and Labiatæ not found elsewhere; and no fewer than twenty species of Thrift (*Armeria*). We cannot follow M. DAVEAU through all his details, but we commend his elaborate paper to the earnest attention of all those concerned in the vegetation of the Iberian Peninsula.

POMOLOGICAL PROGRESS IN AMERICA.—

Dr. F. M. HEXAMER, in the course of his address to the American Pomological Society, as reported in full in *American Gardening*, spoke as follows:—

That the United States is destined to become, if it is not already, the leading fruit country of the world, can no longer be doubted. The chief causes combining towards this end are the country's congenial climate to fruits; its extensive and varied areas available for their growth; the uniformity of its political and social conditions, allowing of free interchange and comparison of ideals and methods; and, last, but not least, that the American farmer has more help from teachers, experimenters, and the National as well as State Governments than any other farmers have. As a consequence, knowledge of all theories and practices which make for better fruit growing are being popularised.

Fruit growing for market has increased enormously in extent, and has greatly advanced in its methods during the last twenty or thirty years. At the present time it employs vast sums of capital, furnishes a livelihood to armies of men and women, and yields, on the whole, large profits. It is unquestionably true that America leads the world in the production of fruit in large quantities and in the perfection with which this fruit is distributed to distant points. The fruit business in general in the United States has increased in much greater proportion than other agricultural industries; and while the production of fruit in the past fifty years has increased 2,000 per cent., the total population in the country during the same period increased only 270 per cent.

The importance of proper refrigeration during the entire process of marketing and transportation has only recently been fully realised and brought to practical and successful application. It has been learned that even our best fall and winter fruits need a cool temperature, if we expect them to reach the consumers in first-class condition. Quick transportation, proper handling and ceaseless watchfulness at every step from picking to the hands of the consumers are indispensable and are to be secured only by intelligent organisation and co-operation.

Not a few men and women now living remember the time when there were no Hovey or Wilson Strawberries, nor any other kinds. Small fruit culture of a definitely organised and systematised business is of distinctly American origin; and in the development of small fruits no material progress was made until the improvement of the native species was begun. All these fruits went through an initial stage of depending upon foreign varieties. Following this, an era of improvement set in, during which, by careful breeding of the native species, and infusion into them of the improved European blood by hybridisation, strains better adapted to American conditions were obtained. This change from an almost total reliance upon introduced varieties to a marked supremacy of sorts originated here has taken place almost wholly since the organisation of the American Pomological Society.

An entirely new factor in striving to improve our fruits is plant breeding. It has been ascertained that the best results are usually obtained quickest by working with variable forms, and that it is necessary to establish in the mind an ideal to work toward, and that crossing is only a means to an end, and should be supplemented by vigorous and persistent selection. The majority of the native varieties of fruits introduced in the earlier part of the last century were merely chance seedlings which grew uncared for until their good qualities were discovered when they were brought into cultivation.

Of far greater importance, however, has been the introduction of varieties which have been produced by careful methods of selection, carried through from one to many generations. Hybridisation has already had a very marked effect in the development of new and valuable Grapes, Pears, &c., and more recently the results already obtained in hybridising the sweet Orange with the trifoliate species have been so encouraged that it may be confidently expected that in the near future fruits obtained from these hybrids will be acceptable in quality and sufficiently hardy to bring the latitude of Orange culture much farther northward.

In no one of the applications of science teaching to fruit growing has the American so clearly the advantage of the European as in the knowledge of insect and fungous pests and of the means of despatching them. The superiority of the American fruit as a general market product is due in a considerable degree to fumigating and spraying.

CYPRIPEDIUMS FROM BURY.—We have received a beautiful collection of cut flowers of *Cypripediums* from O. O. WRIGLEY, Esq., Bridge Hall, Bury, Lancs. (gr., Mr. ROGERS), similar to those in his remarkable group shown at the Drill Hall on Tuesday, December 15, and for which he was awarded a Silver Flora Medal. Mention of the group will be found in our report of the Orchid Committee of the Royal Horticultural Society. The flowers sent include a most bewildering collection of varieties of *C. insigne* and *C. × Leeanum*. Of those sent, specially beautiful were *C. insigne* Constance, *C. i.* Harefield Hall, *C. nitens* Wrigleyanum, *C. Leeanum* Clinkaberryanum, varieties of *C. × Euryades*, *C. × triumphans*, and *C. × Tityus*.

UNIVERSITY COLLEGE, READING, 1904.—We are informed by a circular just issued by the authorities of the Department of Horticulture, that:—

Four Scholarships to young gardeners will be awarded in January, 1904. Each Scholarship is of the value of £45 (inclusive of maintenance and instruction). The student gardeners holding the Scholarships will be required to attend, from January to September, a course of instruction in the Horticultural Department and the Gardens of University College, Reading. Candidates must be of not more than 22 years of age, and must have worked for four years in public or private gardens.

Applications for Scholarships must be made on the Scholarship Form to be obtained from the Registrar. This form of application, accompanied by a certificate of work and character, must be sent to the Registrar before January 10.

Scholarship Examination.—Candidates will be required to pass a simple examination in English, Arithmetic, and the Elements of Horticulture. In awarding the Scholarships, previous training and experience will be taken into account.

Training.—The course of training will consist in:—1, Practical Horticulture; 2, Theory of Horticulture; 3, Account Keeping; 4, Lectures and Practical Work in—Botany and Chemistry in relation to Horticulture; Insect and Fungoid Pests; Bee keeping. The scientific instruction will be given in the laboratories of the College; the practical instruction in Horticulture, in the College Garden. The garden, $7\frac{1}{2}$ acres in extent, is well provided with horticultural buildings. It contains, besides a large number of pits and frames, thirteen glasshouses used for general florist and market work. The Scholarship holders will be prepared for the Royal Horticultural Society's examination.

Certificates of Proficiency will be awarded on the work done during the course, and on the results of an examination held at the end of the course.

The Registrar at the University College will afford the prospectus and information.

CHRYSANTHEMUM SHOW AT GHENT IN 1904.—By the courtesy of M. E. FIERENS, secretary of the Société Royale d'Agriculture et de Botanique de Gard, we are informed that this Society will hold an exhibition of Chrysanthemums, ornamental plants, and Orchids, at Ghent on November 6, 7, and 8, 1904.

PUBLICATIONS RECEIVED.—Some Lesser-known Japan Trees and Shrubs and some recently introduced Trees and Shrubs from Central China. By James H. Veitch, F.L.S. (reprinted from the *Journal of the Royal Horticultural Society*). A very interesting paper, copiously illustrated, and dealing with recent introductions of trees and shrubs and other plants from Central China.—*Nature Notes*, December.—*The Agricultural Economist*, December. Mr. Greening (the editor) continues his review of motors and their probable influence in agriculture; there are also articles on the effect of the recent wet autumn upon agriculture, and a paper on re-afforestation.—*The Gardener*, December 12. Contains an illustrated article on Dahlias, and other notes and pictures.—*Agricultural News*, Barbados, November 21. Contents: Utilisation of By-products in Agriculture, Sugar Industry, &c.—*The Agricultural Gazette of New South Wales*, October. Contents: Letters on the Diseases of Plants; Useful Australian Plants (*Eragrostis nigra*), &c.—*Bulletin of the Department of Agriculture, Jamaica*, November. Contents: Jamaican Fodders, Budding of Mangos, Budding of Cocoa, Pines in the Azores, Composition of Jamaican Fruits.—*Proceedings of the Agri-Horticultural Society of Madras*, July to September. Contents: *Ocimum viride*, Agave Plantation, &c.—*The Transvaal Agricultural Journal*, October. Contents: Forage Plants for the Transvaal, Proper Treatment of Roses, Fruit-



FIG. 163.—PLANT OF CHRYSANTHEMUM MISS ELSIE FULTON.

growing Districts of the Transvaal, Cultivation of the Caoutchouc, Pampas-grass as a Field Crop, &c.—From the Cornell University Agricultural Experiment Station, Ithaca, Botanical Division. Bulletin No. 205, *Shade Trees*, by W. A. Murrill; Bulletin No. 207, *Pink Rot, an Attendant of Apple-scab*, by John Craig and J. M. Van Hook; Bulletin No. 208, *The Grape Root-Worm*, by M. V. Slingerland and John Craig; Bulletin No. 209, *Distinctive Characteristics of the Species of the Genus Lecanium* (Scale Insects), by William C. Thro.—*Indian Planting and Gardening*, November 14. Contents: How to Make Green Tea Pay, and other notes on Tea and Miscellaneous Crops.—*The Australian Garden and Field*, November 7. With notes on the Setting of the Currant-Vine, Codlin-moth, the Flower Garden, Poultry Yard, &c.—*The Melbourne Argus* Tables of the *Australasian Mails for 1904* (Orient-Pacific Line Mail Dates and others for the Australian Colonies, New Zealand, &c.).—*Keys of the Monograph of Cactaceae*, translated by Karl Schumann, author of the book, Professor and Curator of the Botanical Museum of Berlin; a most useful list (Williams & Norgate).—*Journal de la Société d'Horticulture du Japon*, August and September.—*Icones Selectae Horti Thensis* (Iconographie de Plantes ayant fleuri dans les collections de M. van den Bossche, Ministre résident à Tirlemont, Belgique), avec les Descriptions et Annotations de M. Em. De Wildeman. Tome IV., Fascicules 5 and 6, will be noted later on.—*Le Jardin*, December 5.—*American Gardening*, November 28.—*The Weekly Florists' Review*, November 26.—*The American Florist*, November 28.—*The Florists' Exchange* (New York), November 28.—*Encyclopédie Agricole. Entomologie et Parasitologie Agricoles*. G. Guénaux. (Paris: J. B. Baillière et fils).—*Riviera Nature Notes*.—*Journal of the Kew Guild*.—*Missouri Botanical Garden Report*.—*The Garden Annual*, 1904.—*Sutton's Amateur Guide*.—*Hooker's Icones Plantarum*.—*Journal de la Société Nationale d'Horticulture de France*.—*The Orchid Review*.—*Le Moniteur d'Horticulture*.

CHRYSANTHEMUM MISS ELSIE FULTON.

At fig. 163 is shown a photograph of one of the plants of this popular white-flowered Japanese Chrysanthemum, grown by Mr. Thomas Lunt, gardener to A. Stirling, Esq., Keir House, Perthshire. One of Mr. Lunt's flowers of this variety was awarded a Silver Medal at the recent show of the Scottish Horticultural Association in Edinburgh, being adjudged to be the best flower of a Japanese variety at that exhibition. It will be seen that the plant illustrated was cultivated in the manner commonly practised by those who wish to obtain large flowers, being allowed to perfect three shoots, with a flower at the top of each. One of the flowers shown in the photograph measured 11 inches by $11\frac{1}{2}$ inches—truly a prodigious flower! Whether such flowers are in perfect harmony with good taste or not, in this case it was the grower's aim to produce them, and he is entitled to credit for having succeeded so well in his purpose.

KEW NOTES.

MACFADYENA DENTATA.—In the Victoria Regia house at Kew there is a climber which has grown up one of the rafters on the south roof for the last twenty years, and flowers intermittently. It is like *Bignonia Tweedieana* in habit and flowers, but the stems are thicker and the leaves three or four times larger than in the ordinary form of that species. For that reason we have hitherto grown it under the name of *Bignonia Fraseri*, a garden name, but good enough for garden purposes. A sucker from the base of the plant years ago somehow wriggled through the base of the wall to the outside, where it gradually grew into a vigorous plant, and is now permanently established there. It is not injured by frost, and it produces its large yellow flowers more or less freely in summer. Last week I received the following inquiry with respect to this plant:—"Some time ago I saw a beautiful plant trained against the wall of one of your houses, labelled *Bignonia Fraseri*. I cannot find any reference to it under that name, but I find that many plants that were known as *Bignonias* are now transferred to other genera. Will you kindly tell me if this is the case with *B. Fraseri*, and under what name I should ask the nurseryman for it?" I submitted the question to Mr. Sprague, who has lately paid special attention to the *Bignoniaceae* in the Kew Herbarium, and he identified the plant as *Macfadyena dentata*, which is often confused with *Bignonia Tweedieana*. Another species of *Bignonia*, figured in the *Botanical Magazine*, t. 1511, as *B. uncinata*, is now known as *Macfadyena uncinata*. So far as I know the only true *Bignonia* that is hardy in this country is *B. capreolata*, the "American Cross-Vine"; it is therefore worth while to record the hardiness at Kew of this second *Bignonia*-like plant, viz., *Macfadyena dentata*, which has large yellow flowers, and is a useful climber for a south wall.

LOMATIA "PINNATIFOLIA."

The statement made in Lord Annesley's book, reviewed in a recent issue, that "the plant is unknown to the authorities at Kew," is misleading. Proofs of the pictures and of the descriptive notes were sent to Kew for correction, and the *Lomatia* was one of several which could not be made out from the photographs, and of which we therefore asked for living specimens. These were duly forwarded, and the *Lomatia*, the name of which (*pinnatifolia*) was unknown at Kew, was at once identified as *L. ferruginea*, a well-known garden plant, introduced from Chili about fifty years ago, and catalogued by English nurserymen to-day. Probably the omission of this information was due to an oversight.

L. ferruginea has been collected in Chiloe, Valdivia, Patagonia and Chili. Mr. Elwes found it recently (1902) in the last-named country, "in dense forest in Puerto Blest, at an altitude of 3,000 ft." It forms a bush up to 10 ft. high with numerous stems bearing elegant bi-pinnate leaves similar to those of *Grevillea robusta*, but thicker in texture, and the young stems and petioles are covered with dense ferruginous hairs. Probably there are good specimens of it in the gardens of the south and west of the British Islands.

Permit me to endorse your remark with regard to the varying value of photographs as "truthful" pictures. A photographer who knows his business and is perfectly honest can go a long way towards truthful representation, but we all know that a camera can go as far or further in the opposite direction! There are many details of character, often important, which can be seen in the object itself, but which the camera misses. The photographic illustration of the *Lomatia* in Lord Annesley's book, for instance, does not even suggest the plant as I know it.

VELLOZIA EQUISETOIDES (fig. 167).

The *Barbacenias* and *Vellozias* form a suborder of *Amaryllidaceæ*, but they differ widely from the common garden representatives of that order. Most of the species have branched woody stems bearing tufts of leaves as in a *Cordyline* or *Yucca*, some being 10 feet high and as thick as a man's body. The formation of the stem is very remarkable, the wood proper being a thin column which never thickens in diameter after its first formation, but outside it is formed a thick irregular layer of slender fibrous roots, which become united and form a spurious kind of wood, which is added to in thickness annually, something like what happens in some Tree Ferns. Some of the species, particularly those in Brazil, have large handsome flowers, but their introduction into the gardens of Europe presents many difficulties, old stems, when imported, invariably failing. *Barbacenia squamata* and *Vellozia candida* have been kept for several years at Kew, but they got weaker every year. Seedlings present no difficulty, but they grow so slowly that it would take a century at least to grow one a few feet high.

Barbacenia purpurea is a small-growing stove plant, with elegant grassy leaves and slender scapes of deep red flowers, and is not uncommon in the gardens of this country, where it flowers freely throughout the summer. *Vellozia elegans*, a small species from South Africa, with a tufted habit and milk-white flowers, is also in cultivation. *V. equisetoides* has been represented at Kew by small seedlings raised about ten years ago, but these have recently been added to the collection, thanks to Mr. McClounie of the British Central Africa Protectorate. Some very fine stems of it, one of which, in flower, is shown in the photograph here reproduced. This plant is 2 feet high, but the species grows up to 5 feet, with forked branches bearing tufts of plicate hairy leaves and crowds of lilac-purple flowers 2 inches across and deliciously fragrant. There are three plants, similar to that here photographed, in the T-range. W. W., Kew.

REVIVAL OF AN OLD REVIVER.—There was a time, and it does not seem so very long ago, when no blending of Tea was considered complete which did not include a *soupcou* of green. It was an article in middle-class home economics, an ambition for the lower classes of the population, a "pick-me-up" with the fastidious and wealthier section; but, truth to tell, it was just sinking into the obscurity of forgetfulness when an idea seized a grower in Ceylon, "Try the American market." The trial was made; in a couple of years it has proved a great success, and according to the latest figures the monetary value of the export is no small item in the revenue of that lovely and Tea-growing land.

HOME CORRESPONDENCE.

ANTHURIUM SCHERZERIANUM WARDI.—In Mr. Douglas's obituary notice of Mr. Wilkins' first-rate gardener, John Ward, one small mistake is made. Ward did not raise the variety called after him; it was imported by Messrs. Low, of Clapton, and it came into Mr. Wilkins' possession as follows:—He (Mr. W.) had a large business with Central America, and often had plants sent him by correspondents in those parts. One day, on going to his office, he met me

greenhouse plants at exhibitions that Mr. Douglas has forgotten his great opponent, the late Mr. Baines, of Southgate. There was always a grand fight between these two for ten stove or greenhouse plants, and never a bad plant did either of them put up; and that class was always the feature of the show when they did meet. Alas! we never see such plants now. W. Marshall, Bealey.

PLANTAIN IN TURF.—In Answers to Correspondents of last week's issue, it is said that vitriol is better than turpentine for killing the plants. While I know that vitriol may kill any particular



(Photograph by Gunn and Stuart.)

FIG. 167.—VELLOZIA EQUISETOIDES, AS BLOOMING IN THE ROYAL GARDENS, KEW.

with—"I've got the white Anthurium." I should say that this was in the late sixties, when everyone was on the *qui vive* for a white variety of *A. Scherzerianum*. He showed me the roots and asked me to take them down to Mr. Stuart Low. I did so; and Mr. Low, who was a shrewd man of business, immediately wanted them, and offered to give me a lot of imported roots of the red variety and a plant to each of us if our plant turned to be true. He showed me a house full of imported roots just arrived, and told me to take what I liked. I took some back to Mr. Wilkins; he said, "All right; help yourself." I took six plants: the rest went down to Leytonstone, and amongst them was *Anthurium Wardi*. I think when saying that Ward was decidedly first in stove and

rosette, causing the root to sprout a new crop all round in a charming manner, I am able to mention an absolutely satisfactory "cure," which the operator may partake of if he pleases with possible benefit to himself. If there is one plant in the Cambridge Botanic Garden that desires to occupy every square inch of turf, it is *Plantago media*—so I know whereof I speak. The cure I adopt was recommended to me years ago by the Rev. Canon Ellacombe, and I find that it not only kills the rosette but also the root, which always sprouts again if left alive. The perfect cure I refer to is a small teaspoonful of salt. It must be applied in dry weather, and if applied properly there is no damage done to the turf, which soon covers the bare spots left by the plantains. R. Irwin Lynch.

RIVERS' MONARCH PLUM.—The notes in favour of this variety of Plum which appeared in your last, are by its growth and fruiting fully deserved. Having seen very large bushes heavily laden with well-ripened fruit, I purchased a few standard trees; and though Plums this year were not plentiful, still the Monarch merited its already high reputation by setting and ripening even amidst the sunless weather so predominant a somewhat heavy crop. This, I think, tends to prove that not only is it good on a south or south-west wall, but it is almost if not equally so on a bush or a 5 ft. 6 in. standard; and, further, I quite agree with your correspondent that it should and will show itself to be a valuable and good market Plum. One unfortunate thing respecting it is that by its appearance and excellent quality, the "black" and some other birds fancy it as food beyond any other then in bearing, which to the grower is by no means exhilarating. *Harrison Weir, Appledore, Kent.*

THE FISCAL PROBLEM.—Having pointed out to Mr. Chamberlain the necessity of growers of all crops having some form of protection and that it should not apply to the corn-grower only, I have had his reply to the effect that the suggestion will have his attention; and I also had a reply in October on another branch of the subject. Mr. Chamberlain's policy will be better understood presently, and it is described by many of those who are versed in political economy "as a policy of common sense." Whether Mr. Chamberlain is right or wrong, it is patent to all "that something must be done," but with caution, and very soon, and I therefore beg to suggest that Mr. Chamberlain should be asked to address the London growers, in or near London, and by the Royal Horticultural Society, at any date convenient to him. *J. Thornton, Turnham Green, Chiswick, W., December 10, 1903.* [We give insertion to this letter, but in so far as it is a political or party question we must decline any correspondence on the subject, as this Journal always holds aloof from party politics. *ED.*]

NOTES ON PEARS.—Last year and this my trees of several varieties of Pear bloomed fully and well, but their bearing of fruit was somewhat of a contrast and peculiar. My soil mostly is a dark retentive loam on a clay subsoil, therefore generally cold; and yet Pears, which are usually diffident of growth on such ground, here flourish and grow strongly. Last year, against a south wall, my Doyenné du Comice produced some very beautiful specimens; while this year, although full of blossom, there was not a Pear-fruit either on wall or pyramid. Pitmaston Duchess bore last year, and this also, making strong wood. The new and beautiful Pear, Parrot, bore very handsome, almost flavourless fruits, and has been taken from the south wall to try it as a pyramid, but with non-success. Beurré Alexandre Lucas gave large, handsome, highly coloured and attractive fruit, but not of a high flavour, in point of fact being somewhat lacking in this respect. I like Souvenir de Balthé Père much; Madame Treve is good. Dr. Julius the frost nearly killed, and it still looks delicate; Marillat was large, but poor in flavour. As a baking Pear I know of none equal to Catillac. It is also a good bearer. I have several others that, although they blossomed well, have not set any fruit this year, so I hope for better success in 1904. *Harrison Weir, Poplar Hall, Appledore, Kent.*

MELONS RIPE IN DECEMBER.—On taking charge of Barham Court Gardens, Teston, Maidstone, under Mr. Walder a few weeks ago, I was greatly surprised to find an excellent crop of Melons just beginning to net, and on December 1 we cut the first fruits, grandly coloured, and weighing on an average 3 lb. each. They were planted with the hope of finishing them so as to help over a large dessert at the Court, as hardy fruits were scarce. Have any of your correspondents ever succeeded in finishing a crop so late? *F. Streeter, gr.*

BOWHILL HORTICULTURAL ASSOCIATION.—It was very interesting to me, for to read in your issue of the 5th the presentation to Mr. Lunt, as Secretary and Treasurer of the Bowhill Horticultural

Association, which shows that this Association is still in existence. It was founded just twenty-one years ago, during your humble servant's term of apprenticeship there, under the auspices of the late Mr. Mathieson, the then head gardener, and perhaps a more instrumental person in the matter was his foreman, Mr. Brown, who succeeded Mr. Mathieson as head gardener. It was formed to encourage the love for flowers and plants amongst the cottagers upon the Duke of Buccleuch's estate, and was only for *employés* thereon. It was then, and I should think is now, a great success; and one of my reasons for encroaching upon your valuable space is to suggest that this should be more generally carried out upon large estates in country places. I dare say in a great many cases the subject only needs introducing to the notice of the employer. Looking up an old Bowhill schedule of prizes, I see that the Association offered some £6 in money prizes; there was also about £6 in money prizes from friends. Then there was a tradesmen's prize, and the tradesmen in the neighbouring town of Selkirk were very liberal in this respect, in giving prizes in kind. We had a good working Committee which of course is the key to success, and all *employés* paid 2s. annually. *H. R. W., Bedgebury Park.*

TREE-CARNATIONS AT SANDRINGHAM.—In a note on Sandringham, on p. 406 of last week's issue, it was stated that plants of Winter Cheer rooted in January last produced fifty blooms. Having for some time past grown about 1,000 plants in these gardens and elsewhere, and finding that from twenty to thirty flowers per plant is about the yield, I should be glad to know the details of cultivation that have produced such results at Sandringham. *W. Elkington, Foreman, Farming Woods Gardens, Thrapston, Northants.* [There was no exaggeration in the note last week. We will endeavour to describe the cultivation practised at Sandringham in an early issue. *ED.*]

THE STRAWBERRY-GRAPE.—This is the Isabella or the American Fox Grape, described by the late Dr. Hogg, to whom I sent bunches of ripe fruit many years ago. After the Muscats, it is preferred by my employer, Lord Middleton, and his lady, to any other variety. It is also very much appreciated by many of the visitors to Birdsall. Mr. Albert Geddins, gr. to the late Empress Frederick, told me that her Majesty was very fond of it; and he grew it extensively for the royal table. I think this variety and Ferdinand de Lesseps want more attention given to them by market growers; and if raisers of new varieties would try to obtain a good variety or two with larger berries and retain the exquisite flavour of the Strawberry-Grape, a good advance would have been made. When the range of glass-houses was erected at Birdsall a Vine of this Grape was planted in each of the four span-roof vineries, and these Vines were trained under the roof ventilator, extending the entire length of each vinery. They still occupy the same position, and are very prolific and useful. Like Dr. Bonavia, I tried to sell the Grapes at Scarborough in the Scarborough season, but without success, as the taste for them apparently had not been acquired. *Bailey Wadds.*

MELAMPORA PINITORQUA.—The instructive article in the *Gardeners' Chronicle* of the 21st of last month on this subject, by Mr. Geo. Massee, has afforded me, and doubtless many others of your readers, great interest. For myself, I am interested in that I fancy I see a possible solution of the question which has puzzled me in relation to a similar deformity affecting Plum-trees in my garden: specimens of these deformed shoots are forwarded herewith. The deformity exhibited itself first on a wilding Plum which I planted as a shelter tree in 1899. The following year, 1900, was a very dry year, and I thought that probably the drought was the actual cause of the deformity. I took off and burnt the faulty shoots in the following winter, thinking to make an end of it. But in 1901 some of the adjoining cultivated Plum-trees were badly affected, and so were the Gooseberry-bushes in the vicinity of the affected trees. Again I removed and burnt the malformations on all the plants. Well, now, in this year of unprecedented wetness, the wilding

Plum-tree has been as badly affected as ever before, so one cannot reasonably attribute the affection to extreme wet or dry conditions of the weather. The other Plum-trees and the Gooseberry-bushes have this year been scarcely affected at all. I may say that cultivation has been liberal all the way through and all round. The question then comes—Is this the result of a fungoid attack similar to that resulting in the "Pine-branch twist"? *G. Paul, Harrogate.*

THE PROPOSED GARDENERS' ASSOCIATION.—Your correspondent Mr. A. Dean invites proposals to be laid before the proposed Association. Kindly allow me to suggest one, viz.:—That a sort of bureau or enquiry office be established in some convenient centre, for the purpose of enabling gardeners to make enquiry as to what sort of a place as well as the character of the employer he is about to engage with, for many gardeners know to their cost that there are bad masters as well as unworthy servants. Within a very short distance of the place from whence I write is a place where seven gardeners in a little over six years have been engaged, and all of them brought from a distance and mostly young men. Most of these gardeners had to leave without any prospect of obtaining a situation; or if fortunate to hear of a place they were asked the usual questions as to the whereabouts of their last place, length of service, &c. They were probably told the old story that Mr. So-and-So would be communicated with, and of course nothing more would be heard of the matter, or if so fortunate as to be communicated with, it would be to the effect that other arrangements had been made. Employers, moreover, are becoming reluctant to give certificates, and when one is requested the applicant is told, any communication that may be made will be replied to. The entire procedure is far from being satisfactory to gardeners or other servants in private places. I have long thought that something of this sort was wanted now that gardeners have become so much more numerous than situations. *Ivy.*

—I quite agree with your correspondent, "A. D.," that it is not desirable to saddle the Royal Horticultural Society with the cares and responsibilities of the proposed gardeners' association; at the same time I have no doubt it would, metaphorically speaking, take it under its wing, and assist in various ways to make it a success. Possibly the allocation of offices in the new horticultural hall, and the use of a room for large gatherings, annual meetings, &c., for which the association would, of course, pay, could be arranged. I quite understand the members of the Royal Horticultural Society's Council are not a body of professional gardeners [some are]; but from their very office they belong to the same category, and are all deeply interested in horticulture, and should feel it to be both a duty and pleasure to do what they can to improve the lot of gardeners generally. Personally I cannot conceive how it is possible to improve the social position of a private gardener as the law at present stands, which distinctly states that he is a domestic servant. Further, in the eyes of the general public, he does a little jobbing work for a nurseryman for a few months, and earns in that way a precarious livelihood, trimming up villa gardens at about 2s. 6d. [4s. 6d. near London] a day. Some are illiterate, and would find it a difficult matter to write their own names legibly. Such a gardener is by the public placed pretty much on the same plane as first-class gardeners, who must of necessity be well educated, with a good knowledge of every branch of their business, and in some instances linguists, and botanists. Surely this is monstrous, and nothing but the indifference of real gardeners is responsible for this state of affairs. As much skill is needed and as much intelligence is required to become a first-class gardener as in other recognised professions; and it does not surprise me to find landscape gardeners changing their title to landscape architects and engineers, although I should like to ask them to come back to the fold and stick to the grand old title, good enough to ensure respect where those using it are worthy of it. There are institutes of British this and that; why not an Institute of British Gardeners—with, as a matter of course,

stiff examinations? Then the profession would be protected, and, in all probability, recognised; and employers would doubtless engage the services of certificated men, when the inefficient would take their proper place; and steps should be taken to prevent them using the title of gardener unless in possession of such certificates, or, at any rate, they should style themselves assistant gardeners only. It is gratifying to know that head gardeners and superintendents of parks and open spaces under the control of public bodies, corporations, &c., are taking their proper place. *Walter H. Aggett.*

WINTER-GRAFTED ROSES.—If I am entitled to a reply to Mr. C. E. F. Allen, which as far as I am concerned must close the discussion, I must say that for him to appeal to other authorities to make good his case makes his own rather a weak one, if successful practical results, the outcome of "personal experience," count for anything. I grant, and have done so all along, that during the first week the frames should be closed, but I am not aware there is any fixed rule for the eighth or nineteenth days, as the atmosphere outside and heat within will have a varying influence on the temperature, and it is a matter which must be decided by the grower himself, as no hard-and-fast line can be drawn. If the fusion of graft and stock takes place in eight or ten days, it must be accomplished by means of a high temperature, and, as "C. E. F. A." must well know, such treatment would not conduce to the well-being of the grafts; although I grant it would be permissible in herbaceous grafting later on in the spring when the sun begins to have power and the flow of sap is more active. If "C. E. F. A." reads my remarks aright, he will see what I did say was to graduate the air, giving little by little up to the few hours spoken of, and that would be nearly up to the period that the grafts would be removed from the frames into the house, the callus stage, or "fusion of scion and stock," being long since passed. *J. D. G.*

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The frequency with which I am at the present time receiving, as a subscriber to the above valuable Institution, applications for votes at the next annual election is a melancholy proof of the existence of many sorely in need of such assistance as the Institution affords. It is impossible, of course, to estimate the different degrees of need; some are doubtless more acute than others, but I think it may be safely assumed that all the applications represent cases of a *bona-fide* character; and of these many applications only a very few can be successful at the election. Is the gardening profession affording all the assistance reasonably expected from it to the Gardeners' Royal Benevolent Institution? I fear not. Last year I made an urgent application to a number of gardeners who are exhibitors at flower-shows, who, in not a few cases, take good sums of money in the form of prizes—men whose names are not among the supporters of the Institution, and from some of whom I confidently expected a ready support. Alas! my disappointment was very great. I know that many say, "A guinea a year is more than I can afford"; and yet it means a weekly sum of a little under fivepence! What I fear is lacking is interest in the Institution. There is apparently among the members of the craft a sad want of sympathy with their fellow-creatures in misfortune. Why is it that the members of the gardening profession appear to be destitute as a body of that warm sympathetic interest in the welfare of their own class which one finds in the great trade combinations in the country, and also among many other classes of workers? Is it because many of them who reside in country districts and in comparative isolation lose, for lack of companionship, the grasp of those social sympathies which incline men to be helpful to each other? I desire most earnestly at this Christmas season to make an appeal to those gardeners and to others interested in gardening for support to this gardening charity, which is so much in need of increased assistance. It is possible to collect small sums, and so make up a bigger one, if only the impulse of willingness be given to the work. Every locality in which gardeners reside might be made a centre of collection of small sums, if only a

generous willingness compelled action. As I said at the recent Gardeners' Dinner at the Holborn Restaurant, "The multiple of a guinea runs down to sixpence; if you cannot afford a guinea, collect sixpences and shillings."

"He who gives little from his store,
If little be his means,
Presses on as far to the Heavenward shore
As he who gives ten times the more,
If ten times more his means."

R. D.

CHRYSANTHEMUM SPORT.—The variety Mrs. Swinburne, which was raised by Mr. H. Weeks and sent out last spring, is the equal of any of the fine white varieties sent out by this very successful raiser, and one of the three plants which I bought has "sported." In colour the sport is almost exactly like Loveliness. Mrs. Swinburne is a very robust and dwarf grower, being only 4 feet in height. It requires stopping from the middle to the end of April, after which the first flower-buds should be retained. *A. Jefferies.*

ECHINOCACTUS DE LAETI.—In a recent issue of the *Gardeners' Chronicle*, p. 325, "F. C." states that the flower of *Echinocactus de Laeti* is so very different from all the other flowers of the genus that this species should not be included in the genus *Echinocactus*. I described this species and know its flowers very well, and I cannot agree with "F. C.'s" opinion. The flower is very similar to that of *Echinocactus gibbosus*, a very well-known and freely-flowering species of the genus. The flowers of *Echinocactus denudatus*, Link. et Otto, E. Amritrii, K. Sch., E. Davidii, K. Sch., in their essential characters are not very different from that of E. de Laeti; so that I cannot agree in the propriety of founding a new genus on the last, or of placing it in any other genus of the family. *Karl Schumann, Berlin.*

BULB GARDEN.

NARCISSUS CYCLAMINEUS AND THE CLASSIFICATION OF GARDEN DAFFODILS.

I AM, and always have been, entirely in agreement with the writer in the *Journal of the Royal Horticultural Society*, and with Mr. Wolley Dod, as to the classification of *Narcissus cyclamineus*. This is a perfectly good and distinct species, if the term "species" has any intelligible and useful connotation. By the tyranny of the highly artificial classification of twenty years ago, which served a sufficiently useful purpose for the time being, this very remarkable little plant was included under *N. pseudo-narcissus*, simply because its "crown or trumpet is as long as, or rather longer than, the divisions of the perianth." To make it a form of *pseudo-narcissus* on this account, when it has the unique and distinguishing character of absence of tube, as well as other strongly marked differences, is as illogical as though we set *N. triandrus* under *N. pseudo-narcissus* because of this same relation between segments and corona, and ignored all its obvious characters of separation. The suggestion that *N. cyclamineus* is of hybrid origin between some form of *N. pseudo-narcissus* and *N. triandrus* may be set aside as theoretically impossible for the reason adduced by Mr. Wolley Dod (p. 393). As to the practical impossibility, perhaps my own experience is of some value. I suppose I have had more cross-bred seedlings of *Narcissi*, especially of *N. triandrus*, under my eye in the last twenty years than anyone else, and I have never seen a flower with the remotest resemblance to *N. cyclamineus*. Moreover, whether self-fertilised or crossed, *N. cyclamineus* in its seedlings never breaks up into such supposed elements of parentage, but impresses its single individuality on its progeny most markedly.

I will take this opportunity to say a few words about old and proposed new classifications of the *Narcissus*. When Mr. Peter Barr was making and arranging his collection—a really

wonderful achievement for which we can scarcely be grateful enough—his system and names were mainly those of Parkinson, Haworth, and Baker. Multiplicity of material caused him to refine upon their nomenclature, and consequently in his lists previous to 1884 there was a great complexity of Latin names. Thus under the one division of *N. incomparabilis* we find some thirty varieties distinguished by one, two, or even three Latin adjectives:—*incomparabilis*, *incomparabilis albidus*, *incomparabilis albidus elongatus*, &c. Then came the Daffodil Conference held in April, 1884, under the auspices of the Royal Horticultural Society, when a resolution was passed "that garden varieties of *Narcissi*, whether known hybrids or natural seedlings, should be named or numbered in the manner adopted by florists, and not in the manner adopted by botanists." This decree took effect, but although the garden *Narcissi* then catalogued were renamed in English, and English names have been given to the multitude which have been raised since, they have still been fitted or forced into the same Latin-labelled pigeon-holes which were constructed for the species and their varieties and hybrids known in 1884 and earlier. A flower may be named plain Betsy, but for the catalogue or exhibition stage it must be, say, *Narcissus Ajax bicolor Betsy*. As every *Narcissus* will cross with every other, and everybody has been busily crossing them, a crowd of hybrids has arisen and will arise for which no pigeon-holes are available, and a demand is being made that an entirely new piece of classical furniture shall be built for their reception, or a new range of pigeon-holes added to the antique cabinet. Two schemes of fresh classification have been proposed in 1903. The first, by Professor Hillhouse, of Birmingham, though ingenious, is impracticable, because it abolishes the present system only to replace it by one still more complex and arbitrary. The second, advocated by Messrs. Burbidge and Barr, is an extension and in a small measure a simplification of the present system, but seems to me equally impossible of adoption because it provides that every flower shall be classified by actual measurement, in inches and fractions, of its corona and perianth segments.

Has not the time come when the *Narcissus* can dispense altogether with a cumbrous and pedantic classification? It is no disparagement to its authors to point out that it has served its turn. Mr. H. J. Elwes, in his above-quoted resolution of 1884, saw the kernel of the matter when he proposed that the *Narcissus* should be named after the manner of florists. Since then it has become still more in every respect a true florist's flower, dependent for its rank and popularity upon its constantly progressing beauty of form and colour, quite apart from ancestry and classification. If it is asked, "How then shall we group the *Narcissi* in lists and exhibitions?" it may be answered that the Rose, for example, is the outcome of a similar commingling of species, and has its pigeon holes and *hortus siccus* in books and museums, but nevertheless is satisfactorily catalogued and exhibited with a sufficiently simple nomenclature. For myself, I have long ago ceased to take any interest in all this dubious Latinity. People come to my grounds in April and ask me with vehemence whether this or that is an *Incomparabilis* or a *Barrii*. I always answer that I have not the least idea, but that it seems to me a nice flower with a good deal of red in the middle, or otherwise. At all events this much is true, that however beautiful and comprehensive a classification of *Narcissi* may be in 1904, it certainly will not hold the plethora of new forms which will jostle one another in 1914, but, like *Narcissus* himself, will at last die of its own beauty. *G. H. Engleheart.*

THE PROPOSED GARDENERS' ASSOCIATION.

A LARGELY attended meeting of gardeners was, by kind permission, held at the Horticultural Club on Tuesday last, to take the proposal to form a National Gardeners' Association into consideration. Mr. O. Thomas, V.M.H., was voted to the Chair, and Mr. A. Dean acted as Secretary. The latter gave a *résumé* of the various letters which he had received from various gardeners, all warmly approving of the proposal, though few gave practical reasons for the formation of an association. One letter was from a lady head-gardener at Leamington, who claimed for her sex the right of membership if the association be formed.

As the originator of the proposal, Mr. W. H. Divers, of Belvoir Castle Gardens, was the first invited to speak. He gave a lucid explanation of his reasons for desiring the formation of such a body as is proposed. He thought gardeners, and especially the heads of first-class places, should occupy a professional status equal to that held by members of ordinary professions, that the stigma placed on gardeners of being mere domestic servants should be removed, and especially dwelt on the need for some remedy for the present overcrowding of the professional-gardener element, as that tended to reduce wages. He would like to see a more exacting education required for young gardeners, so as to place only the best men into good positions, and thus also elevate the gardener's social status. Anything like trade-unionism should be rigidly excluded from consideration. Nothing in his estimation tended so much to the comfort of gardeners as the securing the esteem and confidence of their employers. He would like to see the central association allied to the various gardeners' associations of the kingdom, and also rendering tangible help to the garden charities.

Mr. C. E. Fielder expressed his satisfaction that no element of trade-unionism was suggested.

Mr. J. McIndoe, V.M.H., thought the Association should be formed and then more complete attention could be devoted to the domestic-servant aspect which some found so offensive. It had been said that there were too many young men taken into the bothies, many of whom became failures. In the North he had found it difficult to obtain young men, as the small pay offered did not tempt them. It was not so in the South, where they were perhaps too numerous. At present the number of the higher grade of gardeners was too overcrowded.

Mr. G. Norman, V.M.H., feared that an association could not do much, but thought that the Royal Horticultural Society could materially assist gardeners. It might keep a register of gardeners wanting situations, and see that only the best men were put into them. He should regard a good recommendation from a head gardener as a first-rate certificate of merit to a young man. Formerly foremen were advanced to that position at 25 years of age, now they had often to wait until thirty years, and then in myriads of instances the heads were superseded when hardly fifty years old by younger, much less experienced and cheaper men. He would like to see young men compelled to spend some time in getting a knowledge of forestry, farming, general work, &c., so as to qualify them later in life to become stewards and agents.

Mr. J. Willard wished to see gardeners doing everything they could to raise themselves.

Mr. J. Jacques would like to see an examination test applied to young gardeners, and thought the Royal Horticultural Society could undertake that work.

Mr. W. Howe thought that compelling the passing of an examination would be unfair to many a young fellow in whose abilities the head had full confidence.

Mr. Fielder thought out of pure good nature

"Heads" were often too liberal in the matter of recommendations.

The Chairman felt that an examination as proposed might deal rather harshly with many otherwise excellent young men, but in any case preferred an examination conducted by the Association itself.

Various other speakers took part in a long and interesting debate. Ultimately, on the proposal of Mr. Norman, seconded by Mr. McIndoe, it was unanimously resolved that, to enable more opinions to be obtained as to a National Gardeners' Association, the meeting stand adjourned until the second Drill Hall meeting in February, and that a small committee, consisting of Mr. Thomas (Chairman), Mr. A. Dean (Secretary), and Messrs. Divers, McIndoe, Willard, Jacques, Norman, Kelf, Dixon and Allan be formed to prepare a scheme as a basis for discussion and bring up the same at the February meeting.

SOCIETIES.

ROYAL HORTICULTURAL.

DECEMBER 15.—The last meeting of the Committees for the Calendar year 1903 (not Society's year) took place on Tuesday last in the Drill Hall, Buckingham Gate, Westminster.

There was a very nice display of flowers and flowering plants, also of trees and shrubs in pots, and other interesting exhibits. The great feature of the meeting was the wonderful show of Orchids; and of Orchids the Cyripediums were more numerous and attractive than the rest of the species. Never has such a magnificent lot of Cyripediums been shown in the Drill Hall. The ORCHID COMMITTEE recommended one First class Certificate and five Awards of Merit to novelties.

Before the FLORAL COMMITTEE there were shown several collections of Chrysanthemum flowers; and the brightest exhibit was a group of winter-flowering Begonias from Messrs. JAMES VEITCH & SONS. The uncommon award of a Gold Medal was made in the case of an exhibit of alpine plants from Messrs. T. S. WARE, Ltd. An exhibit from Lord ALDENHAM of growths cut from deciduous shrubs having coloured stems was very interesting. Only two Awards of Merit were recommended to novelties—one to a decorative variety of Chrysanthemum, and another to a new Codæum.

The FRUIT AND VEGETABLE COMMITTEE made no award to a novelty, but awarded two Medals, one for a collection of Grapes, and another for an exhibit of Onions.

At a meeting in the afternoon there were seventy-one new Fellows elected to the privileges of the Society, making a total of more than 1,400 elected during the present year.

Floral Committee.

Present: W. Marshall, Esq. (Chairman); and Messrs. H. B. May, Chas. T. Druery, Geo. Nicholson, W. Y. Baker, Jas. Walker, R. Dean, A. Perry, J. F. McLeod, J. Jennings, W. Howe, G. Reuthe, C. E. Fielder, W. Bain, Chas. Dixon, Chas. Jeffries, H. J. Cutbush, Chas. E. Pearson, R. C. Notcutt, H. J. Jones, W. P. Thomson, E. H. Jenkins, C. E. Shea, George Paul, and Harry Turner.

Messrs. T. S. WARE (1902), Ltd., Feltham, Middlesex, had a very large exhibit of alpine plants growing in pans. These were not in flower, but the specimens were in excellent condition of health and growth, and constituted a remarkable collection of about 200 different sorts of evergreen rock plants (Gold Medal).

Messrs. THOS. ROCHFORD & SONS, Turnford Hall Nurseries, Broxbourne, exhibited a group of Codæums, in which were two dozen or so plants of the variety Turnfordiensis, described below; also two other varieties, both narrow-leaved; they were named Golden Gem, and elegantissimum roseum, the latter having considerable red colour, and being most attractive (Silver Banksian Medal).

Messrs. WM. CUTBUSH & SON, Highgate, London, N., exhibited a few hardy plants in flower, such as Galanthus ciliatus, Narcissus bulbocodium monophyllus, the double red-flowered Primula acaulis (Primrose), P. megaseæfolia, Iris Vartani, I. stylosa, Schizostylis coccinea, &c.; also berried plants, as Pernettyas, Skimmia japonica, and other shrubs.

Chrysanthemum "Heston White," a sport from Framfield Pink, was shown by Messrs. CRAGG, HARRISON & CRAGG.

Messrs. WELLS & Co., Earlswood Nurseries, Redhill, Surrey, showed a collection of Chrysanthemum flowers in a number of late varieties. The most attractive were Miss Jessie Cottle (yellow), King of Plumes, Miss Emily Fowler (yellow), Daisy (single, white), Treasure (single, yellow); also a few large flowers, as those of May Inglis, Madame P. Radaelli, &c. (Silver Banksian Medal).

Mr. HEMMING, The Gardens, Alexandra Palace, also showed Chrysanthemums of late-flowering decorative varieties.

Mr. JOHN RUSSELL, Richmond Nurseries, Richmond, made an exhibit of small decorative shrubs in pots, amongst which were Eleagnus aureo-picta, Aucuba japonica, A. vera, A. maculata, Garrya elliptica, Eurya latifolia, Hedera flavescent, a beautiful Golden Ivy, H. madeirensis variety (green and white), Daphne odora (indica), rubra, &c.

Mr. JNO. ROBSON, nurseryman, Altrincham, exhibited plants of a variety of Bouvardia with single red flowers. It was named Mrs. McCulloch, and the plants had been grown from cuttings taken in June from roots imported in a dry state from Australia.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's Road, Chelsea, made a glorious exhibit of winter-flowering Begonias. The variety Winter-Cheer, though it has been many times at the Drill Hall, was more brilliant than ever, and the plants more abundantly flowered. These winter-blooming Begonias impress us more and more, and are certainly amongst the most notable productions of latter-day horticulture. The varieties shown included Winter-Cheer, Julius, Ensign, the dwarf growing Agatha and Agatha compacta; also the species B. socotrana, one of the parents of this strain. There were some pretty plants in bloom of Gesnera (Naegelia) exoniensis (Silver-gilt Flora Medal).

Messrs. W. BULL & SONS, New and Rare Plant Establishment, King's Road, Chelsea, exhibited a group of well-grown Palms, many of them choice and some rare species. There was a very beautiful plant of Phoenix Roebelinii; also of Caryota Woodfordii (an effective plant with orange coloured stems), Cocos Weddelliana, Calamus intermedius, Pritchardia pacifica, Geonoma Schottiana, Licuala grandis, Corypha Wogani (Silver Flora Medal).

Messrs. CUTBUSH & SON, Nurserymen, of Highgate and Barnet, made an exhibit of Evergreen shrubs and trees in pots, in which were included Hollies in great variety, Cupressus, Ivies, Euonymus in variety, Taxus, Juniperus, Picea Engelmanni var. glauca, Garrya elliptica, Pernettya mucronata in variety. As these plants had a stature of 2 feet to 10 feet, the group was imposing and instructive (Silver-gilt Banksian Medal).

Lord ALDENHAM, Elstree (gr., Mr. Beckett), exhibited shoots of a large number of species of deciduous shrubs in bundles, stuck into vessels of water to show habit and the colour of the rind in the winter season, the latter a matter too little considered by planters. Among the more striking we may mention Rosa viridiflora (still carrying flowers and leaves), Cornus sanguinea, C. s. atrosanguinea, Spiræa canescens, Rubus phoenicolasius (red rind, covered with red spines), Polygonum sachalinense, Ribes sanguineum, Kerria japonica, Salix purpurea, S. albo vitellina (bright yellow), S. laurina (with a deep purple rind), Leycesteria formosa (still in bloom and leaf), Spartium junceum, Rosa alpina pyrenaica (shoots covered with stiff red spines), Fraxinus excelsior aurea, Euonymus europæus (beautifully fruited), Rubus crataegifolia, Spiræa Lindleyana (with red-brown rind), Bambusa metake, Deutzia crenata (the shoots having red-brown rind), Salix rubra, S. jaune des Ardennes (of a ruddy-brown tint), Rhus typhina (with a rich brown rind), Tamarix japonica, Rubus canadensis rubra, &c. (Silver-gilt Flora Medal).

Messrs. H. CANNELL & SONS, Swanley, Kent, exhibited about forty bunches of flowers of zonal Pelargoniums, in a number of choice varieties, having very large flowers and brilliant colours (Silver Flora Medal).

Messrs. CHAMPION & Co., 115, City Road, E.C., exhibited wooden tubs for the cultivation of shrubs.

AWARDS OF MERIT.

Chrysanthemum. Allman's Yellow. — This excellent yellow-coloured decorative Chrysanthemum was described in our last issue on p. 410, when a First-class Certificate had been awarded by the National Chrysanthemum Society. From Mr. T. ALLEMAN, Dartford, Kent.

Codæum (Croton) Turnfordiense. — This is a comparatively broad-leaved variety of excellent effect, the leaves being about 2½ inches across at the widest part, and suddenly tapering to a point. The centre of the

leaf is rich yellow in colour and the margins deep olive-green. The stem of the plant and the petioles of the leaves are yellow, tinted here and there with rose colour. Shown by Messrs. THOS. ROCHFORD & SONS, Turnford Hall Nurseries, Broxbourne.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the Chair); and Messrs. Jas. O'Brien (Hon. Sec.), de B. Crawshaw, R. Brooman-White, H. M. Pollett, H. Ballantine, J. Douglas, F. Wellesley, J. Colman, H. T. Pitt, W. A. Bilney, A. A. McBean, J. Charlesworth, E. Hill, T. W. Bond, M. Gleeson, J. W. Odell, W. Boxall, J. W. Potter, W. H. Young, H. J. Chapman, W. H. White, H. A. Tracy, H. Little.

There was perhaps the largest show of Orchids of the year, the *Cypripediums* contributing the greater number; and of them the forms of *C. insigne* and *C. Leeanum* were largely in the majority. All the leading groups contained many of the best varieties of such *Cypripediums* as *C. insigne* Harefield Hall, *C. i. Sanderæ*, *C. i. Sanderianum*, and other yellow varieties, and there is therefore need only to particularise other good species and varieties not so abundantly shown, or special plants.

BARN SIR H. SCHRODER, The Dell, Egham, had a remarkably fine group, good alike in variety and culture, several of the larger specimens bearing a great number of flowers. For example, *C. x Mrs. Chas. Canham* had thirty-five blooms; *C. Leeanum Masereelianum*, twenty-four flowers; *C. Pitcherianum*, eighteen; and others were proportionately good. This collection contained the only First-class Certificated plant of the day, viz., *Odontoglossum x Vuylstekei vicians* (see Awards), and several new hybrids, one being an improvement on *C. x triumphans*; and *C. x Dellense* (*Lathamianum x insigne Sanderianum*), a showy and distinct-looking flower. Others noted were *C. insigne Sanderæ* (with eight flowers), *C. i. undulatum* (with pretty waved edged petals and dorsal sepal), a pretty *Odontoglossum x Humeum*, the pale yellow *O. luteo-purpureum Amesianum*, *O. x cuspidatum xanthoglossum*, *Oncidium ornithorhynchum album* (with seven branched spikes), and a fine plant of *Lycaste x Ballie* with many flowers. A Silver-gilt Flora Medal was awarded.

NORMAN C. COOKSON, Esq., Oakwood, Wylam (gr., Mr. H. J. Chapman), sent a remarkably fine collection, in which the blotched forms of *Odontoglossum crispum* formed the centre of the group. These included *O. crispum Cooksonianum*, a grand white flower blotched with chocolate-purple; *O. c. Peetersii*, white tinged with purple and finely blotched; and other spotted forms; *O. Pescatorei Lindeni*; *Cypripedium insigne Sanderæ*, with ten flowers (Cultural Commendation); and *C. i. S.*, Oakwood Seedling (see Awards), *C. x Niobe*, Oakwood variety, *C. x Juno*, *C. x Baron Schroder*, *C. x Norma*, *C. x Youngiano-superbiens*, and other fine *Cypripediums*, including several fine *C. x Arcturus*, raised at Oakwood (Silver-gilt Flora Medal).

J. COLMAN, Esq., Gatton Park (gr., Mr. W. P. Bound), staged an excellent group well arranged with *Asparagus Sprengeri*, the effect being heightened by an arrangement of the winter-flowering *Calanthes Wm. Murray*, *Bryan*, varieties of *vestita*, and the bright rose-tinted *Veitchii* at intervals. Most of the best *Cypripediums* were also included, and among specially fine things observed were *Lycaste Skinneri alba*, *Cypripedium Argus Moensii* and a fine selection of the best form of *C. x Leeanum* (Silver-gilt Flora Medal).

G. F. MOORE, Esq., Bourton-on-the-Water (gr., Mr. Page), was awarded a Silver-gilt Flora Medal for a very extensive and remarkable collection of *Cypripediums* of great variety and beauty, the best forms of *C. insigne*, and *C. Leeanum*, as in other groups, predominating; about seventy-five named species and varieties of *Cypripedium* and some unnamed being included.

O. O. WRIGLEY, Esq., Bridge Hall, Bury (gr., Mr. E. Rogers), secured a Silver Flora Medal for a very extensive collection of *Cypripediums*, the cut flowers of nearly one hundred varieties (several flowers of each) being represented. Among the *Cypripediums* *C. insigne Berryanum* was a fine form, with few but very large dark blotches on the upper sepal; *C. i. Wrigley's* variety, very pretty, distinct and finely marked; so also *C. i. macranthum*, *C. x Euryades Wrigleyanum*, *C. x Curtiso-ciliolare* and a fine *C. x triumphans*. Twelve distinct varieties of yellow *C. insigne* were also included.

W. E. BUDGETT, Esq., Henbury, Bristol, was awarded a Silver Flora Medal for a fine group of *Cypripediums*, made up of about one hundred-and-ninety well grown plants of the finest varieties. The exhibit was all the

more praiseworthy seeing that Mr. BUDGETT cultivates his Orchids without professional assistance.

Messrs. HUGH LOW & Co., Enfield, secured a Silver Flora Medal for an excellent group, in which were noted *Cypripedium insigne* Mrs. F. W. Moore, a pretty and distinct yellow-flowered variety with a dorsal sepal, the upper half of which is white, a few pale purple blotches appearing at the base of the white portion; *C. i. Dormanianum*, pretty *C. x Euryades*, *Odontoglossum crispum*, *Cypripedium x Leeanum magnificum*, *C. insigne* "Monk's Cowl," with a concave dorsal sepal; *C. i. Statterianum*, *C. x Lawrence-Charlesworthii*, of dark reddish-purple tint; *Cymbidium Tracyanum*, &c.

MESSRS. JAS. VEITCH & SONS, Chelsea, were awarded a Silver Flora Medal for a group of hybrid Orchids, the rose and purple tints of the *Lælio-Cattleyas* affording a contrast to the large number of *Cypripediums* in other groups. The best in the group were *Lælio-Cattleya x Epicasta*, *L.-C. x Hon. Mrs. Astor*, *L.-C. x luminosa*, *L.-C. x Semiramis*, *L.-C. x Terentia*, *L.-C. x coronis*, *L.-C. x Eunomia*, *L.-C. x Cappei*, *L.-C. x Bryan*, *L.-C. x Wellsiana*; *Lælia x Icarus*, *L. x Mrs. Gratrix*; *Cypripedium x Niobe*, and *C. x Baron Schroder* were also shown.

MR. J. CYPHER, Cheltenham, received a Silver Banksian Medal for a small group of very fine *Cypripediums*, the best of which were the delicately tinted *C. x Queen of Italy* (*insigne Sanderæ x Godefroyæ leucochilum*), certificated at the last meeting. Besides these there were a good *C. x Charlesianum*, a fine hybrid between *C. x Leeanum* var. and *C. Sallieri Hyeum*; *C. x Leeanum giganteum*, and others.

MESSRS. B. S. WILLIAMS & SON, Upper Holloway, staged an effective group for which a Silver Banksian Medal was awarded. It contained plants of *Lælio-Cattleya x Sallieri*, *Calanthe x Sandhurstiana*, *C. x Oweniana*, *Cypripedium x Williamsianum*, *C. x Pitcherianum* William's variety, several fine forms of *C. x Harrisianum*, *C. insigne grandiflorum*, *C. i. violaceo-punctatum*, *C. x nitens superbum*, *C. x Leeanum* varieties, and other good hybrids.

MR. H. WHATELEY, Kenilworth, received a Silver Banksian Medal for a group of varieties of *Cypripedium x Leeanum*; *Odontoglossum crispum*, including a pretty variety with flowers tinted with rose; *Zygopetalum Mackayi*, &c.

M. CHAS. VUYLSTEKE, Loochristy, Ghent, sent *Odontoglossum x ardentissimum radicans*, a form which resembles a purple spotted *O. Pescatorei*, but with larger flowers; *O. x Harryano-crispum ridens*, which secured an Award; *O. x loochristyense ornatum*, a large pale-coloured variety; a good *O. x Wilckeanum* and *Miltonia vexillaria robusta autumnalis*, a large-flowered form said to be of the autumn-flowering type habitually.

Captain G. L. HOLFORD, Westonbirt (gr. Mr. H. Alexander), showed *Lælio-Cattleya x Ophir superba* (*L. xanthina x C. aurea*) with bright yellow flowers tinged with rose on the lip; *Cypripedium x Charlesianum superbum*, *C. x Euryades aureum*, *C. x E. marginatum*, *C. x E. superbum*, and *C. x E. Westonbirt* variety, all very handsome and distinct.

Messrs. SANDER & SONS, St. Albans, staged a good group, in which were *Cypripedium x Clio magnificum*, *C. x Charlesianum*, *C. x Garrett A. Hobart inversum*, *C. Charlesworthii*, albino varieties of *C. insigne* and *C. x Leeanum*, *Cattleya x Adonis*, *Lælio-Cattleya x Helvetia*, *L.-C. x Bletchleyensis*, *Lælia anceps Amesiana*, &c.

J. T. BENNETT-POE, Esq., Holmewood, Cheshunt (gr., Mr. Downes), sent *Cymbidium x Tracyano-giganteum*, with flowers marked similarly to those of *C. giganteum*, but with some appearance of *C. Tracyanum* in the lip.

MR. H. A. TRACY, Twickenham, showed *Cypripedium x Chas. Canham aureum* of an almost entirely yellow tint.

Lieut.-Col. CARY BATTEN, Abbotsleigh, Bristol, showed *Cypripedium x Mrs. Cary Batten*, a fine flower like a large *C. villosum*, yellow marked with purple; and a hybrid between *C. x nitens* and *C. Sallieri*.

F. A. REHDER, Esq., Gipsy Hill (gr., Mr. Norris), sent *Cypripedium x Zia* (exal x *Iantho superbum*).

W. M. APPLETON, Esq., Weston-super-Mare, showed *Cypripedium x Dowlingianum*, Appleton's var. (*Godefroyæ leucochilum x insigne punctatum violaceum*), a very handsome flower, cream-coloured spotted with purple; *C. x Fred. Hardy* (*Charlesworthii x Spicerianum*); and *C. x Elsie* (*Boxalli x Charlesworthii*).

Awards.

FIRST-CLASS CERTIFICATE.

Odontoglossum x Vuylstekei vicians, from Sir H. SCHRODER, (gr., Mr. Ballantyne).—A beautiful hybrid,

with fine and perfectly-shaped flowers, the broad, nearly equal sepals and petals being canary-yellow, very heavily blotched with dark purplish-red, lip white, crimped, with one large brown blotch in the centre, and some smaller ones on each side.

AWARD OF MERIT.

Cypripedium x Leeanum Clunkaberryanum, from Baron SCHRODER, NORMAN C. COOKSON, Esq., and O. O. WRIGLEY, Esq. Tardy justice was thus done to this, one of the finest and largest forms of *C. Leeanum*, the large dorsal sepal of which is pure white, with a small greenish base.

Odontoglossum crispum Maria, from NORMAN C. COOKSON, Esq. (gr., Mr. H. J. Chapman). Flower of the best type, white tinged with purple at the back, the colour showing to the surface, which is prettily blotched with reddish-brown.

Cypripedium insigne Sanderæ, Oakwood seedling, from NORMAN C. COOKSON, Esq. A dwarfier and finer form of the best of all the yellow forms of *C. insigne*, raised at Oakwood. The floral differences are noted in the broader and more circular dorsal sepal, which has a broad buttercup-yellow band dividing the greenish base from the upper white portion.

Odontoglossum x Harryano crispum vicians, from M. CHAS. VUYLSTEKE, Loochristy. The largest and finest marked form yet shown.

Cypripedium x nitens Wrigleyanum, from O. O. WRIGLEY, Esq., Bury (gr., Mr. Rogers), a very handsome and finely marked form, the flowers being equal to that of a good *C. x Leeanum*, the dorsal sepal finely spotted.

Fruit and Vegetable Committee.

Present: Geo. Bunyard, Esq., Chairman; and Messrs. Jas. Cheal, H. Eslings, S. Mortimer, Alex. Dean, Ed. Beckett, H. J. Wright, Jno. Jaques, Geo. Kelf, J. Willard, P. C. M. Veitch, Geo. Reynolds, F. Q. Lane, W. H. Divers, Geo. Wythes, G. Norman, J. McIndoe, W. Poupert, A. H. Pearson, and H. Somers Rivers.

An excellent exhibit of fruits was contributed by C. BAYER, Esq., Tewkesbury Lodge, Forest Hill, London, S.E., who had upwards of twenty good bunches of Grapes, of the varieties Lady Downe's Seedling, Black Alicante, Muscat of Alexandria, Gros Colmar, and Directeur Tisserand. These were well developed and bore a nice lot of bloom. In addition to the Grapes there were fifteen dishes of dessert and culinary Apples, and a small Pine-apple. This produce was from a garden situated within five miles of Charing Cross (Silver-gilt Knightian Medal).

LORD ILCHESTER, Holland House, Kensington, (gr. Mr. J. Dixon), exhibited fruits of *Beurré Rance*, and *Glout Morceau Pears*. His Lordship's garden is situated less than four miles from Charing Cross (Votes of Thanks).

MR. ED. BECKETT, gr. to Lord AIDENHAM, showed an exhibit of remarkably large, well-developed Onions, and was awarded a Silver Banksian Medal.

MR. A. D. HALL, M.A., Rothamsted Experimental Gardens, exhibited tubers of half-a-dozen varieties of "salad" Potatoes. Several of these were of the type known as "Fur Apple" Potato, but others were smooth in the skin, and may have been crosses. The names were as follows:—*Sparfel*, *Lange Rothes Horn*, *Mauschen*, *La Vierge*, *Corne des Chevres*, and *Tannen Zapfen*. The tubers of this section are of a waxy nature, and may be sliced thinly as required for salad more conveniently than ordinary Potatoes.

LINNEAN.

GENERAL MEETING, DECEMBER 3.

PROF. J. BRETLAND FARMER, F.R.S., Vice-President, in the Chair.

The ballot for a Councillor having been closed, the Vice-President declared that the Rev. Thomas Roscoe Rede Stebbing had been elected Councillor by a large majority. The ballot for the secretary having been closed, it was declared that the Rev. T. R. K. Stebbing had been unanimously elected Secretary for Zoology.

Dr. Eric Drabble then gave an account of his recent researches on the "Anatomy of the Roots of *Palms*," illustrated by lantern-slides from his drawings. He stated that the roots of more than sixty species have been examined. Essentially similar results have been obtained from each. The adventitious root has its origin in the pericycle of the stem, arising as an extensive rhizogenic arc. The apex is occupied by a non-stratified group of initial cells, which give rise by division to a common ground-mass of parenchyma wherein, in very young roots, appear a series of separate procambial strands. These are continued, by secondary divisions of the parenchyma, into the central cylinder of the stem. The strands, usually

after undergoing repeated bifurcations, are connected with the bundles of the stem. Each of these strands gives rise to a "stele"-like structure with exarch protoxylem-groups alternating with phloem-groups; but without histologically differentiated endodermis. As the root lengthens the procambial tissue takes the form of a series of arcs by apical fusion of the strands. Still later a lobed cylinder is produced, and finally the normal root-cylinder of a monocotyledonous plant results.

As a rule all the changes take place during the passage of the root through the thick cortex at the base of the stem, but in several species the lobed cylinder, or even the free strands, persist in the extra-axillary portion. The internally directed protoxylem-groups usually die out distally, but are occasionally represented by inversely orientated groups, the metaxylem elements persisting as the large scattered vessels nearly always present in Palm roots. The "medullary" strands are shown to be in reality the reduced remains of some of the free basal "stele"-like structures which have not entered into the composition of the vascular ring.

In some few cases the proximally free strands unite to form not a single cylinder, but three or more, so producing Cormack's "polytelic" condition. Distally these become incomplete on the central surface, and give rise by lateral fusion in the apical region to first a lobed, and finally a normal root cylinder.

It is evident that the "medulla" in Palm-roots is merely that portion of the common ground-parenchyma, arising at the non-stratified apex, which becomes enclosed distally by fusion of the procambial strands, and hence differs in no respect from the external "cortical" parenchyma.

An attempt was made to extend this idea to other vascular plants; and the suggestion was put forward that all ideas of "monostely" and "polystely," and of "medulla" and "cortex" as separate morphological entities, are based on an artificial conception of the structures involved.

The last paper was one by Miss May Rathbone, communicated by Mr. V. H. Blackman, and read by him in abstract, entitled "Notes on Myriactis Areschougii and Colloidesme californica."

The species of Myriactis in question is parasitic on Himanthalia lorea, forming very small tufts with a cushion of large torulose colourless cells, deeply sunk in the thallus of the host.

NATIONAL SWEET PEA.

DECEMBER 8.—The annual meeting of this Society, held at the Hotel Windsor on the above date, under the Presidency of Mr. George Gordon, V.M.H., was fairly well attended.

Copies of the Report for 1903, and of the Audit of the Sweet Pea Show held at Earl's Court on July 15 and 16 last, were placed in the hands of all present, and these, together with the balance-sheet, as read, were accepted and adopted.

EXTRACTS FROM REPORT.

In presenting to the members of the Society the third annual Report, the Committee is gratified that it should be so satisfactory. The past season has been the most important in the Society's brief history. A controversy arose out of your Committee's action in regard to the judges for the last exhibition, in which action it was unfortunately misunderstood by some members of the Society. Fortunately this was of a momentary nature.

The past summer was wet and cool, with the result that Sweet Peas flourished grandly, though the coldness of the spring put a severe handicap upon the plants in their early stages. In many places the plants attained to the exceptional height of 10 feet, and produced flowers which were remarkable alike for colour, size, and substance. The exhibition held in Prince's Hall, Earl's Court, was a magnificent success, and your Committee's only regret is that the exhibition authorities failed to adequately advertise the gathering. Apart from this the authorities were most courteous, and did all they could to make the exhibition a success. The thanks of the Society are specially due in this matter to Henry Hartley, Esq., the managing director, and to Mr. Bond, the clerk of the works.

The exhibition was so extensive that it was found imperative to remove the barrier at the one end of the large hall with a view to securing an extra 360 square feet of space, and even then the tables were in some places a trifle crowded. The general effect of the show was excellent, though a little flatness was apparent in the centre tables. This your Committee will endeavour to overcome at future exhibitions, as it is very desirable that every advantage should be taken of the excellence of Sweet Peas for decorative effects.

In 1902 the Society conducted a classification of Sweet Peas, and it was thought that this might be annually revised. At a meeting of your Committee held on June 9 it was, however, considered that an audit of the varieties shown would be valuable as indicating the best sorts to grow, and the Honorary Secretary was instructed to arrange for this. Mr. Charles H. Curtis was eventually requested to undertake this decidedly onerous task. The tabulations show to what a remarkable degree the classification of the previous year was

correct, as the present audit substantiates it in all salient points. Your Committee would especially commend this audit to the trade, to whom it is bound to prove of immense assistance in determining the varieties most worthy of retention in catalogues; and it would also draw the attention of cultivators to the colour list in the audit, as this is certainly a list of the very best varieties. The thanks of the Society are due to Mr. Curtis for the exhaustive manner in which the audit is prepared.

Upon the completion of the judging on the first day of the exhibition, the Committee met to consider the merits of the new varieties, of which some two or three dozens were shown. First-class Certificates were awarded to Florence Molyneux (Dobbie & Co. and E. Molyneux), Cupid Her Majesty, and Cupid Lottie Eckford (H. Cannell & Sons), Scarlet Gem, and King Edward VII. (Henry Eckford). The following varieties were Highly Commended:—Cupid Mrs. J. Chamberlain, Cupid Royalty, and Cupid Captain of the Blues (H. Cannell & Sons), Bolton's Pink (R. Bolton). Mr. John Ingman, from Mr. Silas Cole, the Committee desired to see again. The Silver Medal of the Society for the finest novelty of the year was unanimously awarded to Scarlet Gem, which, although in some cases having only two blossoms on a stem, was so remarkable in colour as to bring it well within the scope of the last clause in the "Properties of the Sweet Pea," set forth above.

The financial position of the Society is satisfactory, for, notwithstanding the fact that the expenses at the show were slightly higher, the balance at the bank shows a slight increase on that brought forward from last year. The support given by the trade was most excellent, and your thanks are due to those who gave special prizes, as well as to the many friends who helped with annual subscriptions. The number of members again shows a substantial increase.

The thanks of the Society are especially due to Mr. Charles E. Shea and Mr. George Gordon, V.M.H., President, for the assistance they rendered in adjudicating upon the several splendid exhibits contributed by the trade. Their awards were:—A Large Gold Medal to Messrs. Hobbies, Ltd., Dereham; Gold Medals to Messrs. C. W. Broomfield, Winchester, and H. Cannell and Son, Swanley; Silver gilt Medals to Messrs. Dobbie & Co., Rothesay, and Henry Eckford, Wem; Large Silver Medal to Messrs. Jones & Son, Shrewsbury; Silver Medal to Messrs. E. W. King & Co., Coggeshall; and a Small Silver Medal to Mr. J. Williams, Ealing. Your thanks are also due to Mr. Cecil W. Greenwood for invaluable assistance rendered to the honorary secretary in the management of the show, and also to the several members of the Committee who acted as stewards.

The chief items of income noted were £29 19s. 2d., balance from 1902; £75 3s. 6d., subscriptions; £46 16s., donations; and £9 3s. 9d. for hire of space. On the expenditure side of the balance-sheet appear £68 18s. for prizes; printing and stationery, £17 1s. 11d.; honorariums to Messrs. R. Dean and H. J. Wright, £10 10s.; judges, £3 8s.; committee and judges' luncheon, £8 18s. 3d.; and postages and Secretary's expenses, £9 9s.; leaving a balance with the Treasurer of £30 8s.

PROCEEDINGS.

In moving the adoption of these items, the President pointed out that notwithstanding differences of opinion, and misconstructions placed upon the action of the Committee in respect to its selection of judges, the Society had flourished. It had held a splendid show, it had now placed before it a very useful piece of work in the audit, its membership had increased, and it concluded the season with a balance in hand slightly in excess of that brought forward from the previous year. He hoped the work of the Committee would educate cultivators in the matter of the best varieties of Sweet Peas to grow, and thus assist the trade in materially reducing their lists of varieties. Mr. S. B. Dicks seconded the motion.

Mr. Henry Eckford was elected President for the ensuing year, Mr. N. N. Sherwood was re-elected Treasurer, and Mr. Whitpain Nutting is to follow Mr. Dicks as Chairman of Committee; Mr. H. J. Wright was heartily re-elected as general Secretary, and to him and also to Mr. Greenwood, for services rendered at the exhibition, honorariums were voted. Very little alteration takes place in the personnel of the Committee, as published last season; some members have resigned, and to those remaining were added Mr. George Gordon, Mr. John Green, Mr. G. Crabbe, and Mr. Broomfield. Votes of thanks were accorded to Mr. Gordon and Mr. Dicks for their services to the Society, and to Mr. E. Sherwood, who, in the absence of Mr. N. N. Sherwood (owing to ill-health), acted as Treasurer on his father's behalf.

It was decided to hold the next exhibition in London as nearly at the dates corresponding to those of last year as possible, and the Committee was requested to arrange for a supplementary show in the provinces if suitable arrangements could be made. Earl's Court was suggested as the place of exhibition. Some considerable discussion took place with reference to the selection of judges, and in this Messrs. G. Gordon, W. Cuthbertson, S. B. Dicks, J. Green, R. Sydenham, J. House, and C. H. Curtis took part; a good many mis-

understandings were cleared up, and as a result of the discussion the general meeting recommended (without a dissentient vote) that the Committee select the judges for 1904 in equal number from trade growers, professional gardeners, and amateurs.

We understand that already a large number of prizes have been offered for the schedule of 1904, and that the schedule, including the report, audit, &c., will be published at an early date.

BRISTOL & DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

DECEMBER 10.—This Society met at St. John's Rooms on the foregoing date, Mr. E. Poole, F.R.H.S. (in the Chair). The lecturer for the evening was Mr. Orchard, of Henbury, and his subject "Greenhouse Climbers," a subject which is interesting to all gardeners, and as a consequence Mr. Orchard's remarks were listened to by an attentive audience. A discussion followed Mr. Orchard's lecture, and he was unanimously accorded a vote of thanks.

UNITED HORTICULTURAL BENEFIT & PROVIDENT.

DECEMBER 14.—The monthly Committee meeting was held at the Caledonian Hotel on Monday evening last. Four new members were elected, and eight members were reported on the Sick Fund. The attention of members is particularly called to Rule 14, a member having just forfeited his sick-pay through having neglected to pay his subscriptions within the limit of seven months.

CHESTER PAXTON.

DECEMBER 12.—The annual general meeting was held in the lecture theatre of the Grosvenor Museum on the above date, Mr. N. F. Barnes presiding.

The report and balance-sheet submitted by the hon. sec., Mr. G. P. Miln, revealed a satisfactory state of affairs. Not only was the exhibition held last month the best in the history of the Society, but the list of subscribers and members had increased to over 500; and the credit balance at the bank had also been augmented some £15, there now being a surplus in hand of over £55.

Major MacGillicuddy was re-elected Hon. President, and Mr. N. F. Barnes, Chairman of Committee. Mr. Miln was thanked for his services as secretary and treasurer during the past year, and a wish was expressed that he should continue to discharge those duties, to which he consented. Mr. Newstead was also re-elected consulting naturalist, with the following to form the executive:—Messrs. A. W. Armstrong, J. Breen, J. Clack, John Dutton, A. Ellams, C. Flack, T. Gilbert, John Jackson, H. G. Little, G. Lyon, Stephen May, C. Nixon, H. Pierce, Wm. Pringle, Josh. Ryder, J. D. Siddall, Edwin Stubbs, R. Wakefield, John Weaver, and John Wynne.

It was resolved that the next exhibition of fruits and Chrysanthemums be held on Nov. 16 and 17, 1904.

NATIONAL CHRYSANTHEMUM.

DECEMBER 14.—THE usual monthly meeting of the Executive Committee in Autumn was held at Carr's Restaurant, Mr. Thomas Bevan in the Chair, there being a large attendance. The minutes of the last meeting having been read, the Secretary announced that the President, Mr. Charles E. Shea, has generously promised to renew his special prize of 5 guineas as 1st prize in the class for twenty-four Japanese blooms at the November show of 1904.

The prize-money awarded at the December show was stated to be £32 13s., the Secretary assuring the Committee that it would have been larger had not several who entered found themselves unable to show owing to the effects of the damp weather on their blooms.

An interim financial statement was submitted, showing a balance in hand at the bank, after paying the December prize-money, of £160; to this was added a general supplementary statement to the effect that the Finance sub-committee had that evening drawn cheques to the amount of £103 11s., leaving a balance of £57 12s.; the assets capable of being realised amounted to about £95; the remaining outgoings might be roughly put at £15; so there was every probability of a substantial balance at the end of the year.

The Chairman reported that the officers of the Society had interviewed the general manager of the Crystal Palace Company at the December Show, and he had every reason to believe there would be a favourable response to their suggestion that there should be an increase in the amount given towards the schedule of the November Show in 1904. It was resolved that in accordance with the usual practice two other shows be held at the Crystal Palace next year—one on October 4 and 5, the other on December 6 and 7.

The Secretary stated that by way of adding to the interest of the November exhibition some members of

the Committee and others had promised special prizes of 5s. for the best individual blooms of certain varieties of Chrysanthemums they named, to be selected from the whole show, and he had reason to believe some sixty of these prizes at least would be forthcoming. Several members of the Committee present offered such prizes in addition to those already promised. The details of the competition would be considered by the Schedule Revision Sub-Committee, and arranged subject to the sanction of the Executive Committee.

The Secretary further reported that an old and generous supporter of the Society had offered the sum of 5 guineas towards an evening exhibition of the best late-flowering market varieties, to be held near Covent Garden, either just before or just after Christmas, 1904, the main object sought being to ascertain the best varieties for producing the finest effect under artificial light. It was believed market growers and salesmen would become interested in the experiment and give it substantial support. The Secretary to report progress at the next meeting of the Committee.

The annual audit of blooms at the November Show in the competitive collections was submitted by the Treasurer, Mr. A. Taylor, all bunches being counted as individual blooms. From this statement it appeared that 1,744 blooms had been staged, against 2,544 in 1902 and 3,378 in 1901, the decrease in number in the present year being largely attributable to the incidence of the weather. A division of the blooms into their several classes showed: Japanese, 1,088; incurved, 444; reflexed, 24; large anemone-flowered, 132; anemone pompon (bunches), 12; pompons (bunches), 48; singles (bunches), 18. The greatest falling off was in the Japanese blooms, several exhibitors who entered for competition at the November Show failing to appear owing to decay of their flowers. Ten new members were elected, and the Darlington Horticultural Society was admitted to affiliation. A vote of thanks was passed to the Chairman for presiding.

NATIONAL DAHLIA.

DECEMBER 15.—The annual meeting of the members of the National Dahlia Society was held at the Hotel Windsor; Mr. Ed. Mawley presided.

EXTRACTS FROM THE REPORT OF THE COMMITTEE.

"The London Exhibition was held on September 1 and 2, and, despite the unfavourable season, the exhibits in point of numbers showed the satisfactory increase of 25 per cent., whilst the quality of the blooms was surprisingly good. Nine Certificates were awarded to new varieties.

The Manchester Exhibition, held in conjunction with the Royal Botanical Gardens Society, took place on September 11 and 12. The number of exhibits from the North and Midlands was seriously curtailed owing to the disastrous effects of the June frosts, but in spite of this a fairly large number of entries was obtained, and a satisfactory verdict must be passed on this the first of the Society's Provincial ventures. Five Certificates were awarded to new varieties.

On September 15 a meeting of the Committee was held at the Drill Hall, Westminster, on the occasion of the fortnightly show of the Royal Horticultural Society. Five Certificates were awarded to new varieties. The number of Certificates awarded to new varieties of all sections in 1902 was twenty-nine, and in the present year nineteen, out of a total of 105 seedlings exhibited.

On September 17, by permission of the Royal Horticultural Society, an inspection of the Cactus Dahlias grown for trial at Chiswick was held by the Committee. A prize of 10s. 6d., the gift of Mr. A. Dean, was awarded to Hobbies, Ltd., for Amos Perry, as the best variety for garden decoration.

The terms offered by the Royal Horticultural Society in view of the opening of the New Hall being considered unsatisfactory, the Committee decided to approach the Crystal Palace Company, with a proposal to hold the 1904 exhibition at Sydenham, and an arrangement to this effect has been concluded.

The number of new members joining has been fifty-five, and the losses through resignations and deaths nineteen, leaving a net gain of thirty-six.

The Committee, however, regret to observe the growing tendency of new members to avail themselves of the minimum subscription qualifying membership, and they consequently recommend that for the future members be divided into three classes, namely: "Fellows," paying annual subscriptions of one guinea; "Subscribers," paying annual subscriptions of half-a-guinea; and "Members," paying annual subscriptions of 5s.

The income of the Society from all sources, including the balance of £1 18s. 8d. in the Society's favour from the year 1902, amounted to £228 14s. 2d.; and the entire expenditure, including the payment of all prizes awarded at the London and Manchester exhibitions, amounted to £211 4s. 9d.; leaving a balance in the Treasurer's hands of £17 9s. 5d.

The annual exhibition in 1904 will be held at the Crystal Palace on Friday and Saturday, Sept. 2 and 3.

The usual routine business was done, including the election of officers, and several alterations were made in the constitution of the Committee. The President, Secretary, and Treasurer were re-elected.

THE WEATHER.

METEOROLOGICAL OBSERVATIONS taken in the Royal Horticultural Society's Gardens at Chiswick, London, for the period Dec. 6 to Dec. 12, 1903. Height above sea-level 24 feet.

1903. DECEMBER 6 TO DECEMBER 12.	DIRECTION OF WIND.	TEMPERATURE OF THE AIR.				TEMPERATURE OF THE SOIL AT 9 A.M.			
		At 9 A.M.		DAY.		At 1-foot deep.		At 2-feet deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.	ins.	deg.	deg.	deg.
SUN. 6	W.N.W.	31.8	31.5	42.4	27.5	...	39.2	44.1	48.6
MON. 7	S.E.	41.9	38.9	45.3	30.3	13.39	39.3	43.7	48.3
TUES. 8	S.W.	43.7	41.4	48.6	36.0	0.15	39.9	43.6	48.1
WED. 9	S.S.E.	47.7	47.1	52.6	42.9	0.18	41.4	43.9	47.9
THU. 10	S.S.E.	47.4	44.9	51.1	41.3	0.37	42.4	44.2	47.8
FRI. 11	W.S.W.	41.5	41.7	47.8	38.9	0.10	42.2	44.5	47.6
SAT. 12	E.S.E.	40.7	39.9	47.3	36.5	0.28	41.6	44.4	47.5
MEANS	...	42.1	40.5	47.9	36.2	1.21	40.9	44.1	48.0

Remarks.—The weather has been dull, and at times the days have been very dark, with rain on six days, bringing the total rainfall for the year to date to 38.9 inches.

GENERAL OBSERVATIONS.

THE FOLLOWING SUMMARY RECORD of the weather throughout the British Islands, for the week ending Dec. 12, is furnished from the Meteorological Office:—

"The weather was extremely changeable, with frequent rain in all districts, and with snow or sleet on Sunday and Monday in several isolated places. Thunder and lightning occurred at Valencia on Wednesday, and lightning was seen on the same day at Markree Castle, Stonyhurst, and Llandudno.

"The temperature differed but little from the average. In the south and south west of England and the Channel Islands it was slightly above the normal, while in Ireland and the northern parts of England it was below it, but in all other districts the agreement with the average was almost absolute. Highest readings were observed on Tuesday and Wednesday, when the thermometer rose to 50° and upwards over nearly the whole of England and the south of Ireland, and to 55° at Jersey; in the north-east of Scotland it did not get much above 45°. Lowest readings were observed on Sunday or Monday, when sharp frost occurred in most districts, the sheltered thermometer falling below 25° in many parts of Great Britain, to 21° in England, N.E., N.W. and S., and to 17° at Scotland, E. (at Brnemar).

"The rainfall was considerably in excess of the average over the United Kingdom generally, but showed a slight deficit in England, N.E. and a large deficit in Scotland, N. In England, S.W., the total was more than two and a half times, and in England, S., nearly three times as much as the average.

"The bright sunshine was less than the average in all districts, excepting England, S.W. The percentage of the possible duration ranged from 23 in England, S.W., and the Channel Islands, and 19 in Ireland, S., to less than 10 in most of the Wheat producing districts, and to only 4 in England, E."

THE WEATHER IN WEST HERTS

A return to warm and excessively wet weather.—The recent cold period, which came to an end on the 8th inst., lasted ten days. Since then the weather has remained unseasonably warm, the temperature in the thermometer screen on one day rising to 50°, while the exposed thermometer has on no night indicated more than 5° of frost. Owing to the paucity of sunshine and excessive rain, the soil both at 1 and 2 feet deep, is at the present time of only seasonable warmth. During the six days ending the 12th, 2½ inches of rain fell, which is only about ½ of an inch in defect of the average for the whole of December, and is equivalent to a watering of nearly 10½ gallons on each square yard of surface in this district. Of that amount 9½ gallons have come through the percolation gauge on which short grass is growing, and 10½ gallons, or the whole of the rainfall, through the bare soil gauge, showing how super-saturated the ground must have become. On the one bright day of the past week the sun shone for four hours, but on four other days no sunshine at all was recorded. The winds were again variable in strength, but for no hour did the mean velocity exceed 17 miles. Taking the week as a whole, the atmosphere proved damp, the mean relative humidity at 3 o'clock in the afternoon being 2 per cent. in excess of the average for the month. E. M., Berkhamsted, Dec. 15, 1903.

MARKETS.

COVENT GARDEN, December 17.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand, and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS, &c.: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Adiantums, doz.	4 0	8 0	Ficus elastica, per dozen	9 0	24 0
Aralias, per doz.	4 0	8 0	Hyacinths, Roman (48-pots), doz.	8 0	9 0
Arbor Vitæ, doz.	9 0	18 0	— Dutch, p. doz.	12 0	15 0
Aspidistras, doz.	18 0	36 0	Lilium longiflorum, per doz.	6 0	12 0
Aucubas, per doz.	4 0	8 0	— lancifolium, per dozen	6 0	12 0
Azaleas, each	2 6	5 0	Lycopodiums, doz.	3 0	4 0
Begonia, per doz.	8 0	16 0	Marguerites, doz.	6 0	12 0
— Gloire de Lorraine, per doz.	8 0	24 0	Orange-trees, each	3 6	10 6
Callas, per dozen	12 0	18 0	Palms, var., each	8 0	20 0
Chrysanthemum, per dozen	4 0	12 0	Poinsettias, doz.	8 0	12 0
Coleuses, per doz.	4 0	5 0	Primulas, per doz.	2 0	4 0
Crocus, per box	1 0	—	Pteris tremula, doz.	4 0	8 0
Crotons, per doz.	12 0	24 0	— Wimssetti, doz.	4 0	8 0
Cyclamens, doz.	9 0	12 0	— major, dozen	4 0	6 0
Cyperus, per doz.	3 0	4 0	Solanums, dozen	4 0	6 0
Daffodils, per doz.	8 0	9 0	Tulips, red, doz.	1 0	—
Dracenas, variety, dozen	12 0	48 0	— yellow, dozen roots	1 6	—
Ericas, per dozen	8 0	12 0			
Euonymus, vars., per dozen	4 0	6 0			
Ferns in var., doz.	4 0	30 0			

OUT FLOWERS, &c.: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Azaleas, per doz.	4 0	6 0	Misletto, bunch	0 6	5 0
Bouvardias, per bunch	0 4	0 6	Narcissus, dozen bunches	3 6	5 0
Callas, per dozen	4 0	5 0	Orchids: Cattleya, dozen blooms	6 0	12 0
Camellias, box	2 0	3 0	— Odontoglossums, dozen blooms	1 6	2 6
Carnations, bunch	0 6	3 0	— Cypripedium insigne, per dozen	1 0	2 0
Chrysanthemums, doz. bunches	3 0	6 0	Pelargoniums, zonal, dozen bunches	6 0	8 0
— specimen blooms, doz.	0 9	2 0	— white, dozen bunches	4 0	—
Daffodils, bunch	1 0	1 3	Poinsettias, per bunch	0 10	1 0
Eucharis, per doz.	3 0	4 0	Roman Hyacinths, per bunch	0 6	1 0
Ferns, Asparagus, per bunch	1 0	2 6	Roses, Mermet, per bunch	3 0	6 0
— French, per doz. bunches	0 3	0 4	— various, bun.	0 6	1 6
— Maidenhair, doz. bunches	4 0	8 0	— white, bunch	1 6	2 6
Freesia, per doz.	2 0	2 6	— pink, bunch	1 0	2 0
Gardenias, box	2 6	4 0	— French, bun.	1 0	2 0
Holly, per bunch	0 9	2 0	Smilax, per doz. trails	1 0	1 6
Lilac (French), per bunch	3 6	4 0	Tuberose, strong, per bunch	0 9	1 0
Lilium longiflorum, per bunch	3 6	4 0	— per dozen	0 2	0 3
— lancifolium, per bunch	1 0	1 6	Tulips, Red, per bunch	0 6	—
— auratum, per bunch	1 0	2 0	Violets, doz. bun.	1 0	1 6
Lily of the Valley, p. doz. bunches	6 0	12 0	— Parma, per bunch	2 6	4 0
Marguerites, yellow, doz. bunch.	1 0	2 0			
Mignonette, per dozen	2 0	3 0			

VEGETABLES: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per dozen	3 0	—	Mushrooms (house), per lb.	0 10	1 0
— Jerusalem, p. sieve	1 3	1 6	Onions, per case	5 0	5 6
Asparagus, Spruce, bundle	0 11	—	— per bag	4 0	4 6
— Paris Green	5 6	—	— picklers, per sieve	2 6	5 0
Beans, dwarf, lb.	1 0	—	— English, cwt.	5 0	5 4
— Madeira, per basket	2 0	—	Parsley, doz. bun.	1 0	1 6
Beetroots, bushel	1 6	2 0	— sieve	0 6	1 0
Brussels Sprouts, per sieve	1 0	1 9	Parsnips, per bag	2 0	2 6
Cabbages, tally	2 0	3 6	Potatoes, per ton	70	0-130 0
Carrots, per doz. bunches	1 6	2 0	— New Tenerife, per cwt.	16	0
— per bag	2 0	4 0	Radishes, per dozen bunches	1 0	1 9
Cauliflowers, per dozen	1 6	3 6	Rhubarb, Yorks, per dozen	1 6	2 0
Celery, doz. bun.	7 0	12 0	Salad, small, punnets, per doz.	0 6	1 0
Cress, doz. pun.	0 8	1 0	Seakale, doz. pun.	18	0-21 0
Cucumbers, doz.	10	0-14 0	Shallots, lb.	0 14	0 2
Endive, per doz.	1 0	1 3	Spinach, p. bush	3 0	3 6
Garlic, per lb.	0 2	0 3	Tomatoes, Canary Deepes	2 0	3 6
Horseradish, foreign, p. bunch	1 0	1 6	Turnips, per doz. bunches	1 6	2 0
Leeks, per dozen bunches	1 0	1 6	— per bag	1 6	2 6
Lettuces, Cabbage, per dozen	1 0	—	Watercress, per dozen bunches	0 4	0 6

POTATOS.

Home-grown, 70s. to 110s. per ton; foreign, 70s. to 100s. do.; Dunbars, 13s. do. John Bath, 32 & 34, Wellington Street, Covent Garden.

FRUIT: AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, home-grown, cookers, per bushel ...	3 0	5 0	Grapes, in barrel	10 0	18 0
per half bushel ...	2 0	3 0	— Muscats, A., per lb.	4 6	5 0
barrel ...	12 0	22 0	— B., per lb.	2 0	3 0
— American, in cases ...	8 0	11 0	— Canon Hall, A., per lb.	4 0	6 0
Bananas, per bunch ...	8 0	12 0	— B., per lb.	2 0	3 0
— loose, dozen ...	1 6	1 6	Lemons, per case	8 6	25 0
Chestnuts, bag ...	12 6	17 6	Lychees, box ...	1 2	—
Cobnuts, per lb.	0 7	—	Oranges, per case	5 0	15 0
Cranberries, case 10 6	—	—	Pears, per case ...	9 0	10 6
Grapes, Alicante, per lb.	0 8	1 3	— stewing ...	6 0	—
			Pines, each ...	2 0	6 0
			Walnuts, Gre-noble, bag ...	6 6	7 6

REMARKS.—Broccoli and Cauliflower from Cherbourg, 1s. 6d. to 2s.; from St. Malo, 1s. 9d. to 3s.; Cornish Crates, 11s. to 12s.; Cornish Apples, per dozen, 8s. to 10s.; Avocado Pears, 2s. to 6s.; Grape Fruits, per box, 10s. to 15s.; Chow Chows, per dozen, 2s.; Crowses, per lb., 6d.; Cardoons, each, 1s. 6d.; New F. Kidney Beans, per lb., 3d.; Mistletoe in crates, from 5s. to 8s., coming from Cherbourg, St. Malo, and Honfleur; Holly, per dozen bundles, 18s. to 30s. Some fine Figs from America in bound boxes containing 1 lb. per dozen, 9s. to 10s.; Dates, per cwt., 6s. 6d.; new, 14s. to 16s.

FRUITS AND VEGETABLES.

GLASGOW, December 18.—The following are the averages of the prices during the past week: Apples, United States, 15s. to 20s. per barrel; Californian Newtown Pippins, 8s. 6d. to 10s. per box; other American sorts, 14s. to 28s. per barrel; Canadian, 16s. to 28s. do., and 8s. to 12s. per box; Pears, 6s. to 24s. per box; Grapes, home, 9d. to 2s. per lb.; do. Almeria, 8s. to 28s. per barrel; do. Guernsey, 4d. to 8d. do.; Lemons, 12s. 6d. to 18s. per box, and 13s. to 25s. per case; Tomatoes, 5d. to 9d. per lb.; do. Teneriffe, 3s. to 8s. per box; Onions, Valencia, 4s. 6d. to 5s. 6d. per box; Cucumbers, 9d. each; Cusale, 2s. 6d. per basket; Mushrooms, 1s. 3d. to 1s. 6d. per lb.

LIVERPOOL, December 16.—Wholesale Vegetable Market (North Hay).—The following are the average of the current prices during the past week—prices varying according to supply: Potatoes, per cwt., Main Crop, 4s. 6d. to 5s.; British Queen 2s. 9d. to 3s. 4d.; Up-to-Date, 2s. 9d. to 3s. 4d.; Bruce 3s. 3d. to 3s. 9d.; Turnips, 6d. to 8d. per dozen bunches; Swedes, 1s. 2d. to 1s. 4d. per cwt.; Carrots, 3s. 9d. to 4s. per cwt.; Parsley, 4d. to 6d. per dozen bunches; Onions, foreign, 4s. 3d. to 4s. 6d. per bag; Cauliflowers, 1s. to 2s. 6d. per dozen; Cabbages, 6d. to 10d. do.; Celery, 2s. to 1s. 4d. do.; Fruit: Apples, United States, 15s. to 28s. per barrel; Californian Newtown Pippins, 8s. 6d. to 10s. per box; other Americans, 14s. to 28s. per barrel; Canadian, 16s. to 28s. do., and 8s. to 12s. per box. St. John's—Potatoes, 10d. to 1s. per peck; Cucumbers, 4d. to 8d. each; Grapes, English, 1s. 4d. to 2s. 6d. per lb.; do. foreign, 6d. to 8d. do.; Pines, foreign, 4s. to 6s. each; Mushrooms, 1s. per lb. Birkenhead: Potatoes, 1s. per peck; Grapes, 2s. 6d. to 5s. per lb.; do. foreign, 4d. to 6d. do.; Pines, English, 5s. each.

ENQUIRY.

SOUVENIR DE LA MALMAISON CARNATION PRINCESS OF WALES.—Will some of our readers kindly inform G. Bester in what year this variety was raised, and the name of the raiser?

ANSWERS TO CORRESPONDENTS.

ABIES-PICEA; PICEA-ABIES: Enniskerry.—We have not space to go into this question, which has been so threshed out that practically all those who are experts in Conifers have now agreed to call the Silver Firs "Abies," and the Spruces "Piceas." The Conifer Conference Report, which contains the fullest and best information; the *Genera Plantarum* of Bentham and Hooker; the *Index Kewensis*, the *Kew Handbook of Conifers*, the works of Beissner, Veitch, and many others that might be cited, all adopt this nomenclature. The two genera are quite distinct, and it is a misfortune that any transposition of names should have taken place; but that cannot now be helped.

A CORRECTION: DESTROYING MEALY-BUG ON VINES.—In the *Gardeners' Chronicle* of Dec. 5, p. 389, we stated that Mr. Ward had stated (as we thought, by a slip of the pen) that 2 wine-glassfuls of petroleum should be used along with $\frac{1}{2}$ lb. of soft soap. This more powerful wash was, however, meant for use on the glass, wood, and ironwork, brick walls, plaster, &c.; and only 1 wine-glassful of petroleum and 4 oz. of soft-soap per gallon of water used on the Vines themselves.

APPLE CULTURE; CYDER SORTS, &c.: R. P. As a manual on culture, one of the best is *Fruit Farming for Profit*, by George Bunyard; there have been several editions. Published at Maidstone by F. Bunyard, 29, Week Street. Culinary and cyder varieties:—Pound Apple—requires fruit of better character to give strength and flavour to the liquor. Price's Bitter Sweet,—good for cyder alone, or mixed. Ramping Taurus—fruit large, conical, angular; makes strong cyder. The fruit will bake well, but it will not boil. Orange Pippin—makes good cyder, and is a variety that sells well in the market. Sheep's Snout—valuable cyder fruit, and cooks well in season. Slack-my-Girdle—is usually sold for culinary purposes, though it often helps to fill the cask; alone it has not much merit as a cyder Apple. Sops-in-Wine—good culinary and cyder. Sugar Apple—makes first-class cyder, and it sells well in the market. Tankerton—good for either purpose. Good cyder Apples alone or mixed are Woodsell, Yellow Styre, Red Styre, Reynold's Crab, Rusty Coat, Ten Commandments, Maurice's Pippin, Fox-whelp, &c.

BOOKS: J. O. A book of plans such as you require is published by Mr. H. Cannell, Swanley Junction, Kent.

CHRYSANTHEMUM RUST: Anxious. The leaves sent are now free from the rust fungus. In the interest of gardeners in general you should make known the substances used and the proper proportions in which they may be safely used.

CORRECTIONS: "Abington." In our issue for December 5, our contributor of the article points out that "Glen Gouar" should be "Glen Gouar"; and "Weather-house," a little lower down, should be "Heather-house."

COST OF REMOVAL OF HEAD GARDENER'S FURNITURE: Ignoramus. A matter of mutual agreement.

CURRANT-BUD MITE: S. & S. Yes, certainly. Cut off the shoots and burn. Better still, get healthy plants from some other source and grow them on different land. No remedy has been found generally effectual.

LILY OF THE VALLEY OPENING BADLY: Enquirer. Not being furnished with particulars of your treatment of the crowns, we can but surmise that you erred in some points, or that the crowns were not of flowering age.

LIVERWORT: J. E. Dixon. The Liverwort is *Pellia epiphylla* in its winter dress. During spring and summer the thallus is just a broad plate, but in late autumn and during the winter, the margins of the thallus become divided up, and have the fimbriated appearance so well shown by your specimen.

MAGNOLIA SCANTILY FLOWERING: B. T. B. Lack of sun-heat and excess of rain.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—E. T., Wrexham. *Maxillaria picta*.—Anxious. 1, *Begonia Dragei*; 2, *B. Duchartrei*; 3, *B. carminata*; 4, *Peperomia incana*; 5, *Rohdea japonica* (?), poor specimen; 6, *Epiphyllum Gartneri*.—E. A. T. *Lasiandra macrantha*. This is a stove shrub requiring a mixture of loam, peat and sand, and good drainage. It does equally well in a border as in a pot or tub. There is a poor variety of this species in cultivation, shy, and with smaller flowers than the type.—G. M. W. We fail to recognise the *Coleus*.—No name, postmark "Market Drayton." 1, *Cupressus Lawsoniana* var. *erecta viridis*; 2, *Juniperus*, perhaps *virginiana*; 3, *Pinus excelsa* probably; 4, *Abies concolor*; 5, *Picea orientalis*; 6, *Cupressus Lawsoniana*.—M. A. S. We guess the twigs you send to be those of *Amygdalus nana*.—A. B. C. 1, *Daphne Laureola*; 2, *Pulmonaria officinalis*; 3, probably a *Heuchera*. Why not take more pains when you are sending specimens for naming? It would be better for you, and save us unnecessary time and trouble.—J. C. K. *Abelia rupestris*.—J. M., Notts. 1, *Blechnum brasiliense*; 2, *Polypodium crassifolium*; 3, *Davallia canariensis*; 4, *Pteris serrulata major cristata*; 5, *P. Ouvrardii*; 6, probably the same as 5, or a sported form of it.

—F. E. S. 1, see fruit next week; 2, *Cypripedium insignis* Chantini; 3, *Oncidium phymatocylum*, so far as we can judge by the bad specimen sent; 4, *Dendrobium pulchellum* of gardens; 5, D. Pierardi; 6, *D. chrysotoxum*.—W. H. W., Norfolk. 1, *Cypripedium Spicerianum*; 2, *Eupatorium gracile*; 3, *E. Weinmannianum*; 4, *Adiantum Waltoni*, a garden variety.

PEACH BORDER UNDER GLASS: W. P. C. Pasture loam one year in stock, and if very heavy incorporate one-eighth road-grit, sandstone, or ballast with it, one-sixteenth crushed bones, or mortar-rubble. Mix all of these materials well together, and when in a dryish condition wheel them into the house and make firm. The depth named is sufficient. Concrete is not wanted unless the staple is wet.

ROMAN HYACINTH BULB FAILING TO GROW: S. T. G. The bulb began to grow and make roots in a normal manner, and then the tips came into contact with some deleterious substance in the soil, or were gnawed by grubs, perhaps those of some species of weevil, or those of the common cockchafer. The soil that the bulb was potted in was quite suitable.

STRIKING TREE CARNATIONS: Tree Carnation. Prepare early in January a one or two-light close-fitting frame on a hotbed of tree-leaves and stable-litter, and when the rank heat has declined, and the plunging thermometer indicates 85°, level the surface and put in a 6-inch layer of fine coal-ashes, leaving a small aperture to let out the vapour. When the ashes are warmed to 80° prepare the pipings (wiry side-shoots); put six to eight round the rims of large 60's, which plunge to the rims in the ashes, having previously afforded water to settle the soil. This may consist of finely-sifted loam three-quarters, and sharp sand one-quarter only. Keep the frame close if there is but little vapour, otherwise afford a small chink of air. Do not give air in quantity before rooting has taken place, but should any damping-off prevail among the pipings, afford air plentifully for a quarter of an hour in the forenoon. When a slight growth in the pipings has become noticeable, either lift out the entire potful and place it in a less close frame for a week or two, or lift out with a thin label such pipings as show growth, potting and keeping them in a warm frame for a time.

THE "BEST" CUCUMBERS FOR WINTER FRUITING: A. E. Beckett's Victory, Matchless, Lord Roberts, Telegraph, and Tender and True. These are trustworthy varieties at the present time, and good at all seasons. The warmth required is for the air 70° at night, 75° in dull weather by day, and in bright weather 80° to 85°. A steady bottom heat of 80° is enough.

THE FIGS FELL OFF: E. T. G. If, as we think, the crop was ruined by a fungus, this particular species, whose spores may be found on the leaves, the soil of the house, and scattered about the house, will come to life to commit havoc another year. You were right in burning the fallen fruits, but the leaves should be cleared up and burned likewise, and everything in the house washed with sulphide of potassium $\frac{1}{2}$ oz. to 1 gallon of water, several times at intervals during the winter and early spring, and also when the Figs show. If this sort of treatment be adopted with the large Fig-tree, the fungus, whatever it may be, will be destroyed.

WEED ON LAWN: E. O. W. *Prunella vulgaris*. A good dressing of manure now, and in the spring the application of a small quantity of nitrate of soda, 2 oz. to the square yard, and repeated once or twice in the summer. If it is not too abundant it might be taken up with a spud and grass-seed sown in the vacant places.

COMMUNICATIONS RECEIVED.—Harrison Weir—Dr. Dammer, Berlin—W. Müller—W. B. H.—Dr. Stapf—N. E. Br.—R. J.—Otto Kunze—B. D. J.—R. N.—Norman McK.—W. P. W.—P. G.—A. B.—La Mortola.—Lord Powerscourt.—J. L.—W. E. G.—S. W. F.—J. H. V.—S. M. W.—C. H. P.—A. B. McD.—Ringwood.—A. T.—E. M. H.—F. E. S. (we do not recognise the Grapes)—Geo. McK. (telegram)—W. H.—J. Tully.—T. H.—W. Hales—J. A. L.—J. B. S.—R. F. M.—F. W. E. J.—T. P.—Justus C.—J. O'B.—A. J.—T. H. S.—A. H.—E. C.—F. A.—B. G. S.—E. B.—H. H. J. Mulson.—E. C.



MERYTA SINCLAIRII, NEW ZEALAND. SHRUB FLOWERING IN THE TEMPERATE HOUSE AT KEW.



THE

Gardeners' Chronicle

No. 887.—SATURDAY, December 26, 1903.

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THE HOME OF GILBERT WHITE.

CHRISTMAS is essentially a country festival. The kindly genius of Charles Dickens, it is true, has associated its feeling of our universal brotherhood with the poor children of our town slums; and the joy of children, rich and poor alike, in the Christmas pantomime has become an integral part of the season's merrymaking. The old English Christmas, however, such as we see it in the pages of Washington Irving, is essentially of the country. The capacious fire-place, with its Yule log, the boughs of Holly and Mistletoe, and the mummers making their way through the snow from farm to farm—all speak to us of winter in the country.

Though Christmas and its amusements find no place in Gilbert White's *Natural History of Selborne*, Selborne has by that book been made for thousands of English readers scattered in every quarter of the globe a type of rural England, and with all his wealth of photographic detail, Gilbert White gives us a full account of all the natural features of his village in winter.

Five miles from a railway-station, Selborne is a secluded spot to-day; but in White's time, rather more than a century ago, it was even more so. There were good roads within reach, the Portsmouth Road and the Winchester Road, by which the naturalist might make his not infrequent visits to London or Oxford; but the immediate approaches to the village were through

the deep hollow lanes, "by the traffick of ages, and the fretting of water, worn down . . . in many places . . . sixteen or eighteen feet beneath the level of the fields," which "after floods, and in frosts, exhibit very grotesque and wild appearances . . . from the torrents rushing down their broken sides; and especially when those cascades are frozen into icicles, hanging in all the fanciful shapes of frost-work." Situated as it is just beyond the shelter of the chalk down, the celebrated Hanger, lies to the south-west, in what White calls "so woody and mountainous a district." The rainfall of Selborne is high, averaging 32 in. a year; so that in all probability winter snow would not seldom block these lanes, as White describes it as doing in January, 1776, "drifting over the tops of the gates" and "above the tops of the hedges," and stopping "the company at Bath that wanted to attend the Queen's birthday" in London when no farther on their way than the Castle Inn at Marlborough.

In this secluded village White was born, though not, as has again and again been erroneously stated, at the Wakes, the house in which he spent most of his life, and in which he died. When we read his pitying solicitude for "poor Mr. Banks" braving "the intemperance of every climate" and "hazarding his life" in "his immense voyage" with Captain Cook, we are forcibly reminded of Alphonse Karr's election, in that *Tour autour de mon Jardin*, which is so worthy a successor to White's immortal work, "Make you the tour of the world, I will make the tour of my garden." Not that the Selborne naturalist confined his attention to his garden and its plants. He was far more of an ornithologist than a botanist, and his gardening was largely of that eighteenth-century artificiality that delighted in arbours, grottos, and "prospects." The brick walk which he made to his summer-house yet remains, though the summer-house has disappeared, whilst the "large Portland dial-post and slab from Andover," with its "brass dial-plate" (see fig. 172, p. 441), the purchase of which is recorded in his *Garden Calendar*, under the date of November, 1761, is unaltered. This cannot be said of the house itself (see fig. 171, p. 440). Though he added to it himself, it was far smaller at his death than at present. Professor Bell, who occupied it from 1864 till his death in 1880, added to it, and considerable alterations have been made since, whilst even the present proprietor feels himself obliged to make yet more for the accommodation of his family. It is to be regretted that the actual home of the naturalist has not been preserved as he left it; but much remains as it was in the village and surrounding country. Unfortunately, the gale of September 10 destroyed an Ash-tree planted by Gilbert White in 1731, when he was but eleven years old, and seriously damaged an Oak planted at the same time; but we can still ascend the Hanger by the zig-zag path cut by White and his brothers in 1752 to the rough-hewn "obelisk" (now known as the Wishing Stone), which they had brought thither in 1758. There are still many old cottages in the village; and, passing the immemorial Yew at the entrance of God's-Acre, we can still read the simple "G. W., 1733," at the foot of the naturalist's grave. G. S. Boulger.

INDIA.

LIFE IN CENTRAL INDIA. — The following notes have been kindly contributed by a correspondent. They give an interesting insight into the conditions of life in a district of Central India:—"Sambhar is connected by a small branch railway with the main line at a junction station (Phulera) about 4 or 5 miles away. This main line runs direct between Bombay and Agra, a distance of 850 miles. The branch line runs from the junction to Sambhar, and then right through the Salt Lake to another junction station, a distance of 19 miles in all. A mail train comes in from Bombay from this other direction also. The lake itself is about 20 miles long and from 1½ mile to 7½ miles broad, and is a pretty sight when full, which is not always the case, owing to the scarcity of rain and the fearful weather we have. The railway line runs on a high embankment.

"The salt is obtained by means of evaporation in this way: Large portions of the lake are divided off by embankments; these are called 'pans,' and the water is pumped into them from the rest of the lake by the help of immense engines, worked, of course, by steam. When the salt is forming the water turns a blood-red colour, and when the crystals have formed, labourers (hundreds of them) are engaged by the Government, and they extract the salt and pile it up in great heaps by the railway line. These heaps, seen from a distance, look exactly like lines of huge white tents. Later on in the year the salt is cut with the help of pickaxes, as it gets as hard as a rock, put into sacks, weighed, and piled into railway waggons and railed off to all parts of India. Some 133,000 tons are annually exported from this dépôt. Government derives an immense revenue from the yearly sale of salt.

"We have here a very large and strong treasury where the money is kept. This is supposed to be the largest and most important treasury in India. The money is stored in a room with steps leading down to a large well; the top of the well is protected by a very strong iron grating, which forms the floor of the room itself. The treasury building is guarded day and night by an armed detachment of the 'Marwara Battalion,' which consists of a guard of sixteen men. They have to be on guard by turns, which means walking up and down before the treasure-room with a loaded rifle. After 8 o'clock in the evening no one can pass even at a distance without being challenged by the guard; and if anyone tries to pass by without answering, he is to be shot at once by the sentry; so that even the Assistant Commissioner, who is the head of the place, runs the same risk in case he does not answer. The treasury is always full of money—hundreds of thousands in rupees and banknotes. When required, money is sent from here to other treasuries in India. It goes packed in boxes with iron bands, under the escort of an armed guard of the same battalion. There are very few houses here, five or six in all; the other buildings are the treasury, the Assistant Commissioner's Office, the Commissioner's Circuit House, and a large hospital meant for the Sepoys, and in charge of a European medical officer; also lines of buildings to accommodate the native clerks who work in the office—that is all. The whole of the place, including all the houses and buildings, is enclosed by a wire fencing. There are two gates—one, a handsome iron gate, which opens on to the road that leads straight to the railway-station, about twenty minutes' walk. The nature of the country for miles around is sandy and bare: it is known as the 'Great Rajputana Desert.' There is no grass at all, only a few clumps of trees here and there. There are no roads, except those to the station, and it is wearisome work plodding along through

the heavy, loose sand. The ground rises and falls in undulating, bare sand-hillocks. The houses are built on these small hillocks, and the short roads connecting them are failures, as they get quite hidden by the sand, and cut up by heavy wooden "antediluvian"-pattern native country carts drawn by miserable, ill-treated bullocks. Any other kind of conveyance is unknown here, and these travel only at about the rate of a mile an hour."

THE CYDONIAS.

THE Cydonias—popularly known as Quinces—have been considered until recently as a section of the genus *Pyrus*. Most botanists, however, now

soil. A sunny position is essential to all the species if an abundance of blossom is desired.

C. CATHAYENSIS.

For many years this species was grown against a wall at Kew under the name of *C. sinensis*, under the impression that it was that species. The true *C. sinensis* was, however, about four years ago, obtained from Sir Thomas Hanbury's garden at La Mortola, and was found to be quite different. Nothing is known of the introduction of *C. cathayensis* to Kew, but Dr. Henry has collected it in Hupeh, China, although never undoubtedly wild. It is a loose, spreading shrub, with lanceolate or linear-lanceolate leaves, finely serrate, and 3 inches to 5 inches long. On the

Botanical Magazine just one hundred years ago (t. 692). Its beauty is so great and so widely are its merits known, that scarcely a garden of any pretensions in this country is now without it. When planted in the open and left alone, it makes a large, round, impenetrable thicket of tangled branches. There are some magnificent specimens in the country as much as 10 feet high and 20 feet through. Frequently it is grown on a wall, and very charming it is there, lighting up the garden with its fiery-red blossoms as early as February and March. It is also used sometimes as a hedge-plant. In Lord Annesley's garden at Castlewellan I saw such a hedge some years ago; this, I believe, is cut back every year, and flowers well.



FIG. 168.—FLOWERS OF CYDONIA JAPONICA: A WINTER-FLOWERING SHRUB.
(Photograph by F. Mason Good)

concur in giving them generic rank. To many people, however, the following five species (or some of them) will still be best known under the name of *Pyrus*. Four of them come from China or Japan, whilst the fifth—*C. vulgaris*, or the common Quince—is probably European. The fruits of all the species are acid and astringent, and unfit for food in the raw state; two or three, however, can be used to make conserves of various kinds, also for flavouring various confections. The purely ornamental species are easily propagated by seeds, the varieties by layers or grafts. They are not fastidious as to soil, but prefer a light loam. *C. Maulei* flowers exceptionally well in a sandy

young growths of the current season the stipules are large, leaf-like, and auriculate; on the year-old shoots they are small and inconspicuous. The flowers are $1\frac{1}{2}$ inch across, white, and produced two or three together in a cluster. It has fruited both at Kew and with Canon Ellacombe, and the fruit is 4 inches to 5 inches long, 3 inches wide, and abruptly narrowed at the base. I do not know that it has any economic value.

C. JAPONICA.

This (fig. 168), the best known of the *Cydonias* as a flowering shrub, was introduced from Japan in 1796, and one of its forms was figured in the

At least a score of named varieties of this shrub have been sent out by nurserymen. Some of these are very beautiful, and they range in colour from white or pale-yellow to the richest crimson, and whilst some are single-flowered, others are double. I know no better red one than the Knap Hill Scarlet; but very similar to it is var. *cardinalis*—a fine plant of which on one of the old walls at Kew makes a lovely picture every spring. *Sinica* is double-flowered and deep-red; *nivalis* and *candidissima* are white. The colours of many others also are sufficiently indicated by their names, such as *alba semiplena*, *atrosanguinea plena*, *sulphurea*, *rubra grandiflora*, &c.

One of the best known specimens in this country is the fine bush in the Royal Horticultural Society's garden at Chiswick. Whilst the chief or

C. MAULEI.
Originally described and figured by Dr. Masters as *Pyrus Maulei* in the *Gardeners' Chronicle* for 1874,

height. The plants first raised by Messrs. Maule, of Bristol (after whom it is named), bore flowers of a bright orange-red, but subsequently

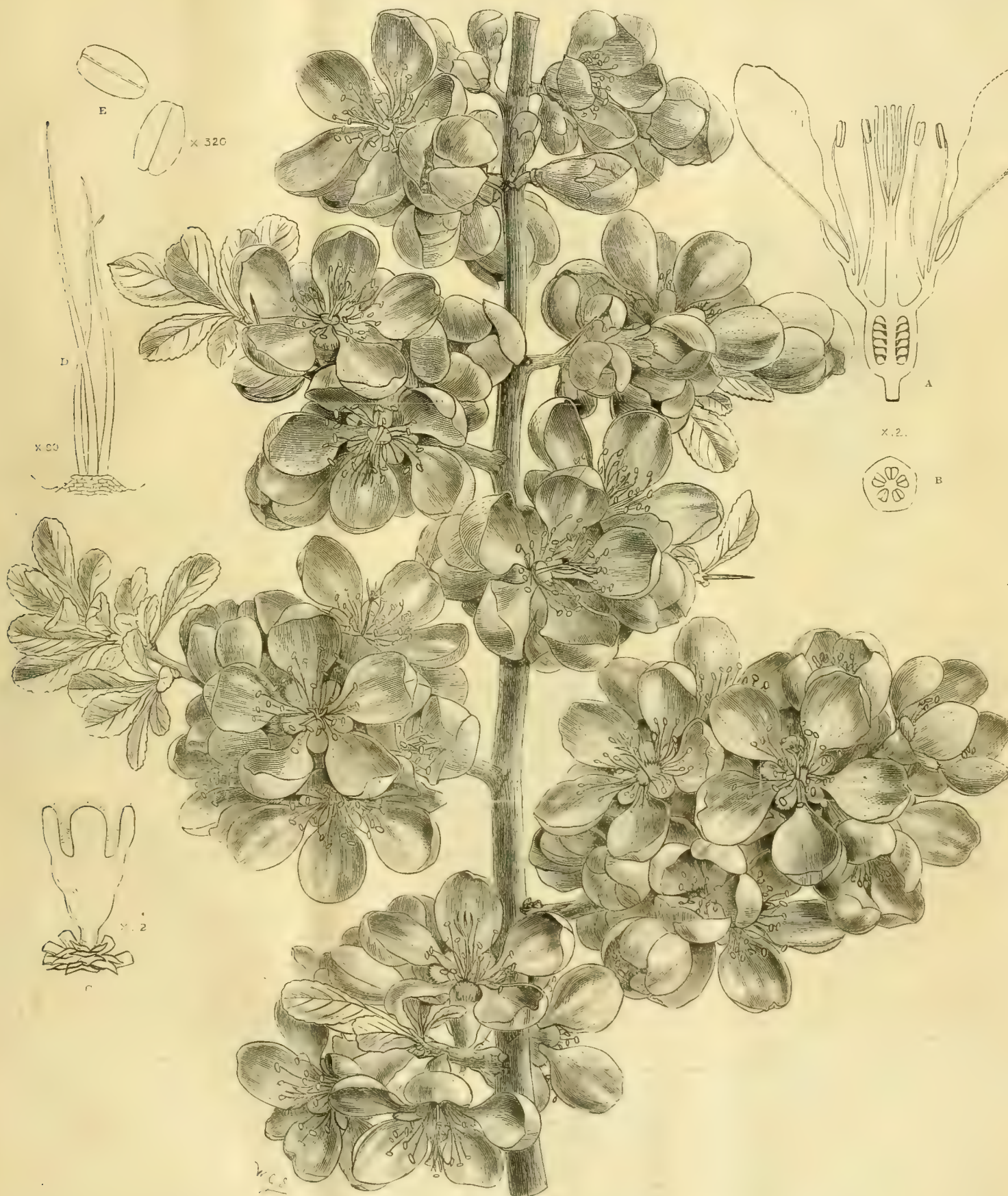


FIG. 169.—CYDONIA (PYRUS) MAULEI.

A, Vertical section of flower; B, Cross section of ovary; C, Calyx; D, Hairs; E, Pollen-grains.

normal flowering time of this Japanese Quince is from April to June, it often continues to flower more or less from February to October.

this species has ever since been a valued shrub in gardens. It is the dwarfest of the *Cydonias*, the largest plants I have seen being 3 to 4 feet in

varieties with flowers of different shades appeared, the two most distinct being *superba* with blood-red petals, and *alba* with creamy-white petals. It

commences to flower in late April or early May, and continues till well into June. In autumn it nearly always carries a large crop of roundish fruits, which are about $1\frac{1}{2}$ inch in diameter, yellow stained with red on the sunny side, and charmingly fragrant. The plant makes a low, rounded or spreading bush, the leaves being oblong or spatulate, 1 to 2 inches long and quite smooth. On the young growing shoots they are arranged alternately, and each one has a pair of large reniform or ovate stipules at the base. On the year-old wood the leaves are arranged in tufts, and the stipules are minute; each tuft is

C. SINENSIS.

According to Thouin, the author of the name, this species was introduced to this country from China towards the end of the eighteenth century. For many years, however, it appears to have been quite lost sight of in English gardens, until a few years ago it was discovered by Sir Wm. T. Thiselton-Dyer in the La Mortola garden and re-introduced. Probably it is incapable of withstanding our severest winters unprotected, but there is a vigorous specimen on a wall at Kew which flowered in June last. It is very distinct from the other *Cydonias* in its

seasons at any rate—in Britain. Even in Paris it is found that it can rarely be brought to maturity.

C. VULGARIS (COMMON QUINCE).

Although the Quince, with its crooked branches and low quaint habit, its large pink or white flowers and its singularly handsome fruits, is well worth its place in the garden as an ornamental tree, it is as an orchard tree that we chiefly know it. In most private gardens one or two specimens are grown for the fruits. These, although acid and astringent themselves, are sometimes used for flavouring ices, Apple-pies, &c. The commonest form is known as *pyriformis*, the fruits being Pear-shaped and of a beautiful golden-yellow—perhaps the handsomest fruit of our orchards. There is a variety with Apple-shaped fruits (*maliformis*), and another called *lusitanica*, which has larger leaves and fruit, but it is a shy bearer. As is well known, the Quince is largely used as a stock for dwarf Pears. Although it is one of the minor fruits of our orchards, the common Quince has been cultivated in South Britain from time immemorial; Loudon says in all probability from the time of the Romans. Like some other of our commonest cultivated plants, its native country is not certainly known; but probably it originated somewhere in the south or south-east of Europe. W. J. Bean, Kew.

BOOK NOTICE.

ICONES SELECTÆ HORTI THENENSIS.

WE have often had occasion to mention this publication, devoted to the illustration and description of the plants growing in the garden of M. Van den Bossche, of Tirlemont. It is chiefly of botanical interest, the lithographic plates being admirably executed, and the text accurately and critically drawn up by the competent hands of M. de Wildeman. The plants figured in recent numbers are *Sparmannia palmata*, t. 141, closely allied to the better known *S. africana*; *Backhousia myrtifolia*, t. 142; *Quercus glauca*, t. 143; *Agave filifera* var. *filamentosa*, t. 144; *Cupressus arizonica*, t. 145, of which M. de Wildeman has, as it seems, not seen the cones; *Pelargonium odoratissimum*, t. 146; *Koeleria paniculata*, t. 147; *Oxylobium ellipticum*, t. 148; *Chiococca brachiata*, t. 149; and *Globularia salicina*, t. 150.

The Week's Work.

PLANTS UNDER GLASS.

By J. MAYNE, Gardener to the Hon. MARK ROLLE, Bicton, Budleigh Salterton, Devonshire.

Pelargoniums.—The show and fancy varieties will now be in need of repotting into pots varying in size from $5\frac{1}{2}$ inches up to 8 inches in diameter. Let the potting be done firmly so as to encourage the production of short-jointed wood; and do not use a very rich soil, but a good turfy-loam with a sprinkling of bone-meal and just enough sand as will give porosity; and should the loam be very heavy, leaf-soil in small quantity may be added. The plants should be kept within 18 inches of the glass roof, and afforded ample space and free ventilation whenever the weather will allow. A cool greenhouse or pit from where frost can be kept out is a suitable place in which to grow them. Fumigation should be done weekly in order to destroy aphids. Apply water carefully during the short days, and discontinue stopping the shoots after this date, but remove all weakly shoots.

Violets occupying pits or frames need much air, pulling the lights back by day when fine. I have found sprinkling with dry wood-ashes as good as anything as a remedy against the spot disease, and stirring the surface at tri-weekly intervals also lessens the evil. Avoid fire-heat, and cover the lights with mats on frosty nights instead, more or fewer, as may be called for. The varieties De

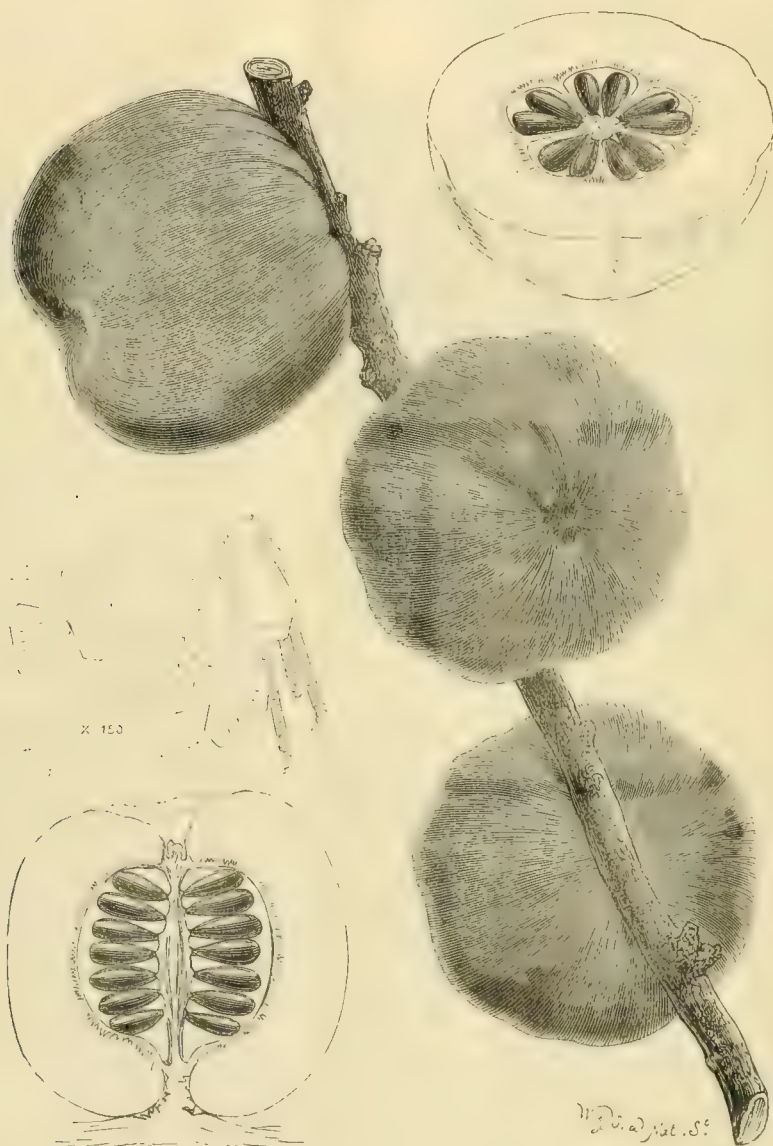


FIG. 170.—FRUITS OF CYDONIA (PYRUS) MAULEI.

guarded by a spine. The flowers, being short-stalked and produced in clusters, often completely wreath the branches—transforming them into cylindrical masses of scarlet or blood-red blossom. The fruits, though harsh and acid, make an excellent conserve.

Cydonia Maulei (figs. 169, 170) is easily raised from seeds, and forms varying in colour may be thus obtained. The plant sent out by M. Lemoine under the name of *C. Sargentii* is merely a form of *C. Maulei*—dwarf in habit and with flowers of a rich blood-red. It is said to have been found by Prof. Sargent on the mountains of Japan. The shrub sent out as *C. japonica pygmæa* is also no doubt a seedling form of *C. Maulei*. The typical *C. Maulei*, described by Dr. Masters, was raised from seed introduced about 1869 from Japan.

foliage and young shoots. The leaves are ovate, 2 to 4 inches long, and especially marked by the glandular teeth on the petiole and margins. The petiole, midrib, and the young wood are also particularly woolly. The flower is a little over 1 inch across, with petals of a dull, pale red. I notice, however, that in his recently-published paper on "Recently introduced Trees, Shrubs, &c., from Central China," Mr. J. H. Veitch describes the flowers as "intense crimson." Possibly there are differently coloured forms of this species, as of other *Cydonias*, or the Kew plant, being young and newly transplanted, may not, this dull year especially, have done itself justice. The fruit I have not seen, but it is described as being egg-shaped and 5 to 7 inches long. It is doubtful if it will ripen—in ordinary

Parma and Mrs. J. J. Astor prove more floriferous than other doubles I am cultivating this season.

The Forcing-pit.—Introduce bi-weekly into this structure *Azalea mollis*, *Deutzia gracilis* and *D. Lemoinei*, *Lilacs*, *Staphylea colchica*, *Prunus*, *Dielytra spectabilis*, *Spiræas*, and double-flowered Cherry; afford a night temperature of 50° to 55°, and syringe the plants overhead twice daily.

Lachenalias.—Now that these pretty plants are showing their flower-spikes apply weak manure-water once or twice a week, but do not force them in any way, or the flower-spikes will be weak and the blooms of short duration; rather keep them on a shelf almost touching the glass until about half their flowers are expanded.

FRUITS UNDER GLASS.

By T. H. C.

Pot Vines.—As soon as it is seen which laterals bear the most compact and shapely bunches thin out the latter, leaving six to nine of the best to a Vine, previously rubbing out all weak and superfluous shoots not required, or for which there is not sufficient space to tie in to the trellis-wires. Stop the laterals at the first joint beyond a bunch, and non-fruiting laterals at any desired length. Let the bottom-heat range between 70° to 75°, and the house temperature at night 60° to 65°, and by day 5° higher; a few degrees more if from sun-heat will be beneficial. Maintain a moist condition of the air by frequently damping paths, walls, and other surfaces, but do not further syringe the Vines. It is rather soon to expect trips or red-spider to make their appearance, but a sharp look-out should be kept and the pests dealt promptly with when observed. Commence early with the use of manual aids to growth when applying water.

Vine-eyes.—When pruning the early Vines, let the strongest laterals be saved for supplying eyes for propagation. In making these select plump buds with about an inch or two of the shoot, cutting the latter half through lengthwise on the under side; insert them singly in 3-inch pots, or a number together in pans or boxes, in a compost of two-thirds sandy loam, and one-third of mortar-rubble and charred garden refuse in equal parts. The eyes should be buried in the soil, the bud being kept slightly above it. Stand the pots or boxes in a cold frame, out of the reach of frost, till the middle of January, when they may be taken into the propagating-pit and plunged in a bottom-heat of 75° to 80°, and a top-heat of 65° to 70°.

Cut-back Pot-Vines.—If it is intended to cultivate "cut-backs" for another year, the canes may be cut down, leaving only two buds above the soil, and in order to prevent bleeding, dress the wounded parts with styptic. Turn the Vine out of its pot, remove a good proportion of the spent soil without breaking or injuring the roots; place in clean, well-drained 11-inch pots in a compost of two-thirds roughly-chopped rich loam and one-third stable-manure and leaf-mould in equal proportions, both the latter being finely sifted. To every wheelbarrowful of the compost add a good sprinkling of mortar-rubble and charred refuse, a 7-inch potful of bone-meal, and a 5-inch potful of Thomson's Vine-Manure. Pot firmly, using a rammer. Stand the pots in a cold-house till they are started in heat at the beginning of the year.

THE ORCHID HOUSES.

By H. ALEXANDER, Orchid Cultivator to Capt. G. L. HOLFORD, Westonbirt, Tetbury.

The Odontoglossums.—In gardens where *O. crispum* is grown in large numbers, some plants will start into growth much earlier in the year than others, and these often develop their pseudobulbs sufficiently early to expand their flowers at the present season. The quality of such blooms is not generally so good as when they open in the spring; nevertheless they are appreciated at this season. Two other species which adorn the orchid-houses at this date are *O. Rossii* and *O. Cervantesii*, well-flowered plants of which are effective, and where many of them are grown, their season of flowering extends over a long period. Then there is the charming little *Sophranitis grandiflora*, which always imparts a cheerful

look to the arrangements when dotted about among the other plants. The flowers of *Sophranitis* are produced on the partly-developed growths, and until such time as the latter are developed fully, moisture should be afforded at the roots plentifully. After this has occurred there is usually a quiet season for a time, and less water suffices. Repotting when it becomes necessary should be carried out when new roots are forming on the growths last made.

Cattleyas.—The coloured and the white varieties of *Lælia anceps* are opening their flowers in the Cattleya-house, and the flowers of *L.-C. Charles-worthii* are developing fast. The last is one of the most beautiful hybrids ever sent out, and is especially useful for cutting purposes. All of these require a long good rest after having flowered. *C. Trianae* and *C. Percivalliana* are showing their flower-spikes, and should be afforded a little more water at the roots than hitherto, and a suitable position in which to open their blooms. Many *Cattleyas* and *Lælio-Cattleya* hybrids are still growing, and these will need a light position and sufficient moisture at the root to enable them to complete their growths.

General remarks.—We are now passing through the dull season, and in conclusion I would advise those who may be desirous of having healthy plants to avoid the use of excessive heat in the houses; to keep the balance of dryness and humidity at all times of the day by close attention to damping down and the giving of air. The forcing of plants into growth by unduly high temperatures is to be condemned, for much better results are obtained when plants get their proper season of rest and start into growth at the right season.

THE FLOWER GARDEN.

By J. C. TALLACK, Gardener to E. MILLER MUNDY, Esq., Shipley Hall, Derby.

Hot-beds.—By the use of hot-beds and frames many species of biennials may be converted into annuals, with advantage to the grower. Among the more important of these are the East Lothian and other Stocks. To be successful, the hot-bed should be made up quite early in the year, and so constructed as to afford a gentle heat over a long period of time. With this end in view, it is advisable to use about two-thirds of Beech and Oak-leaves and one-third of stable-litter, the whole mass of materials being thoroughly mixed and trodden down firmly to a depth of about 30 inches, or even deeper. Though the soil need not be prepared and put on the bed as yet, it is advisable to put the frames and lights on the beds as a protection from snow and rain.

Frame-ground.—Where there are frames full of cuttings of *Calceolarias*, *Antirrhinums*, *Pentstemons*, *Phloxes*, &c., the frames should be protected with stable-litter, tree-leaves, or bracken; and although some of the foregoing are considered to be quite hardy, they are all the better for being protected from frost. Before hard weather sets in, it is advisable to nip out the points of the cuttings of *Antirrhinums* and *Calceolarias* which may be making flower-buds, the formation of these being exhausting to the slightly rooted cuttings.

Bedding Plants of all kinds, and especially stock potsful of such as are intended to furnish cuttings for early propagation, should be kept well up to the glass and afforded ample space, so that the cuttings when taken may be sturdy. The temperature in which they are growing should be kept as low as it may be with safety. Young zonal *Pelargoniums* should be kept free from decaying leaves, and the tips of the shoots pinched out so as to cause several breaks before they are put into pots or boxes. Ivy-leaved *Pelargoniums* may be similarly treated, and in their case it has a double advantage in preventing the growths becoming entangled.

Carnations.—The plants should be pressed down frequently if the soil can be caught in dryish condition, as a firm soil is of great benefit to the young plants, which are sure to get loosened and heaved up by frost.

Climbers.—Now that the leaves have fallen from most of these plants, unnecessary shoots

may be removed, the remainder slightly shortened, and the whole regulated, so as to cover the whole of the available space evenly. Tangled masses of climbing plants, though giving a good effect for a year or two, develop into eyesores afterwards.

THE HARDY FRUIT GARDEN.

By CHAS. PAGE, Gardener to J. B. FORTESCUE, Esq., Dropmore, Maidenhead.

Nuts.—The pruning of Cob Nuts and Filberts should now be undertaken, the bushes being cut into what is known as "basin shaped," that is, the bushes may have a single stem about 2 ft. in height, and from this the main branches, about eight or twelve in number, diverge; and from these main branches young shoots are given off, which, when stopped at the points, form the spurs on which the Nuts are produced. The aim of pruners should be to keep the main branches well clothed with healthy young spurs, and to remove a certain number of the oldest spurs each year, young growths being retained to take their places. A sufficient number of shoots bearing catkins or male blossoms must be left to afford pollen for fertilising the female flowers. When the pruning is finished let the young shoots be collected, these being useful for flower sticks. Let the ground be cleared of weeds and rubbish, and be afforded a dressing of spent hot-bed manure. If it be intended to plant bushes this season, the work should be performed forthwith. Ground in which stones are abundant usually grows good Nuts. The bushes should be planted at a distance of 12 by 15 feet apart. Let the young plants be cut hard back the first season so that the necessary number of shoots for forming the head may form, and the resulting shoots should be cut back annually to about 18 inches in length so as to obtain shoots for forming fruiting-spurs and catkins.

THE KITCHEN GARDEN.

By JOHN FLEMING, Gardener to Sir C. FIGOTT, Bart., Wexham Park, Slough.

Roots in Store.—Take advantage of rainy weather, when the men cannot be employed out-of-doors, to examine Potatos, those showing the least sign of disease being removed. Keep the cellar or store cool, but do not by any chance let frost get at the tubers. Potatos are keeping badly, hence the value of a good root-store. Onions and Carrots should also be sorted over.

Jerusalem Artichokes.—If the weather continue open the tubers may be lifted, and those of useable sizes should be placed in a pit and the sets elsewhere, and the ground on which they were grown well manured and trenched, every tuber being carefully thrown out. The land will come into use for another kind of crop, or it may be replanted with Artichokes, as this plant can be grown on the same land for a number of years without any reduction of crop.

Parsnips.—These roots are the better for being left in the soil until March, as the flavour of a Parsnip begins to go off as soon as the root is lifted, especially when exposed to the air. Part of the crop, or, where the ground is wanted, the whole, may be lifted and stored in layers in a bank formed against a wall having a north aspect, each layer being embedded in sand or fine coal-ashes, and the whole covered with litter or bracken. In this manner of storing the roots they can be got at in any state of the weather. It may be mentioned that the roots must not be thrown into the heap promiscuously, but each root laid regularly and in order, with the top pointing outwards.

Hints on Work in General.—All kinds of seasonable work should be forwarded expeditiously in view of the pressure of operations later on. These may include alterations in walks, &c., and draining the vegetable quarters. In frosty weather wheel manure, &c., on to the quarters, putting it in heaps ready for being spread; mould up fully the late Celery plants, and during severe weather cover the ridges with bracken, but removing it whenever the weather breaks. On wet and retentive soils Celery suffers much from damping, and sheets of corrugated iron may be employed to throw off the rain and snow.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the Publisher.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Special Notice to Correspondents.—The Editor does not undertake to pay for any contributions or illustrations, or to return unused communications or illustrations, unless by special arrangement. The Editor does not hold himself responsible for any opinions expressed by his correspondents.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

WEDNESDAY, DEC. 30. { National Potato Society (proposed), Windsor Hotel, Victoria Street, S.W. (3.39 P.M.). }

SALES FOR THE WEEK.

WEDNESDAY NEXT—

Palms, Plants, Azaleas, Dutch Bulbs, Lilliums, Perennials, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 11 o'clock—At Stevens' Rooms at 12.30, Roses, Azaleas, Lillacs, Gladioli, Begonias, Fruit Trees, Japanese Lilies, &c.

FRIDAY NEXT—

Imported and Established Orchids at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.—200 Azaleas, Hardy Border Plants and Bulbs, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12 o'clock.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick—37.3°.

ACTUAL TEMPERATURES:—

LONDON.—Dec. 21 (6 P.M.): Max. 47°; Min. 37°. PROVINCES.—Dec. 21 (6 P.M.): Max. 53°, South Wales; Min. 43°, Yorkshire Coast.

Systematic Pomology.

UNDER this title one of our American correspondents—Professor WAUGH—has issued a treatise concerning the description, nomenclature and classification of fruits. It is published in New York by the Orange Judd Company, and although in detail it concerns the fruits of the United States, the general principles are necessarily the same in all countries.

The introduction, treating of Pomology in general under the three headings of description, nomenclature and classification, and the bulk of the work are devoted to the application of these principles to particular cases. It is excellent practice for young gardeners to write comparative descriptions of the fruits they meet with, and still better to make drawings, to scale, of the exterior and interior of the fruit. Such descriptions and drawings, if supplemented by written details as to season of maturity, cropping, cultivation, and so forth, will be most valuable for reference in after years.

As these notes accumulate, the necessity for some system of classification will become forced upon the student. A strictly botanical classification, though useful in books of reference, is not of so much importance to the average gardener as a more arbitrary grouping according to use, quality, or period of ripening. Of course, if the details of form, colour, or size can be co-related with those relating to cropping, flavour, use, and season, all the better; but this can rarely be done satisfactorily. Nevertheless it is an object to be aimed at, and if absolute success cannot be looked for, the more nearly we attain to it the fuller and more useful will our knowledge become.

The blank forms recommended for general adoption by Prof. WAUGH contain spaces in which the name of the variety, its habit of growth, height, length of fruit-stalks, length of leaf-stalks, and colour of foliage are all entered in their appropriate spaces. Then come the details relating to the fruits—how produced, their form, colour, dimensions; the seeds, and the colour, texture and quality of the flesh, and so on. If the use of such forms were made general, the comparison between fruits grown in different localities and under varying circumstances would be made easy and profitable. These description-forms should be written on paper of the same dimensions, so that they can be arranged under whatever system be preferred, and preserved in cabinets or other receptacles easy of access. The locality and the date when the description was made should invariably be given. Different chapters are allotted in this volume to the descriptions of various fruits—Apples, Pears, Plums, and so forth; and numerous illustrations are given to help the student, and ensure accuracy and uniformity.

The rules of nomenclature, the determination of synonyms, the claims of priority, all receive attention, but as they are the same as are recognised in systematic botany generally, it is not necessary here to do more than allude to them. Prof. WAUGH does not seem to have seen, at least he does not allude to the classification of Apples given by the late Dr. Hogg in the later editions of his *Fruit Manual*. It was the result of extended observation, great labour and experienced judgment, and the results are as good as can be expected where the data are at once so limited and so notoriously variable and uncertain. It is not easy to name any particular Apple by it, but it is in general easy to refer it to its particular section.

A man who has had extensive practice in drawing up descriptions of fruits and comparing them one with another, is likely to be a good judge of fruits when exhibited. A system of points is, however, recommended for his guidance, of which the following are examples:—Form, 2; colour, 2; size, 2; freedom from imperfection, 6; total, 12; or, as an alternative, form, 10; size, 10; colour, 10; freedom from blemishes, 20; uniformity, 20; quality, 30; total, 100. In every case the average characteristics of the particular variety to be adjudicated on must be borne in mind.

It may be of interest to cite the "score card" adopted for Grapes, as follows, premising that the Grapes are grown out-of-doors in the States:—Flavour, 30; form of bunch, 10; size of bunch, 15; size of berry, 15; colour, 10; firmness, 5; bloom, 5; freedom from blemishes, 10—total, 100. We do not think this mode of pointing would be considered satisfactory here; but, as an illustration of what our transatlantic cousins think, it is interesting.

We have said enough to show that this book will be read with great interest by pomologists, and that valuable results must accrue from this attempt to introduce system and order in place of confusion and chaos.

Similar remarks may be made with reference to another work on *Systematic Pomology* that has reached us since the above lines were written. Necessarily it deals with the

same subject but in fuller detail. Its purport may be gleaned from what follows:—

In the United States "there appears to be a legitimate field for a manual of moderate dimensions, adapted to the needs of the amateur fruit-grower, and those desiring to make a beginning in the systematic study of fruits. Hence this book." It is the work of Professors BUDD and HANSEN, and contains the descriptions of the leading varieties of the orchard fruits, Grapes, small fruits, subtropical fruits and nuts of the United States and Canada. It is illustrated by hundreds of outlines of the principal commercial fruits and nuts. The work opens with a summary of the principal systems which have been promulgated for the classification of Apples, including that published by Dr. Hogg. Then follows a scheme, like that above mentioned, for the description of particular specimens, with blank spaces, in which are to be inserted for each specimen notes relating to the size, form, nature of the skin, surface colour, dots, cavity, stalk, basin, calyx, segments, core, cells (carpels), tube, stamens, seeds, flesh, flavour, quality, season, &c. The descriptions and illustrations which follow are, of course, of Apples grown in the United States, arranged alphabetically, and are not applicable here, but the general principles are the same. Both books should form part of every pomologist's library. They may be procured through WILLIAMS & NORGATE.

**** OUR ALMANAC.**—According to our usual practice, we shall shortly issue a *Gardeners' Chronicle Almanac* for the year 1904. In order to make it as complete as possible, we shall be obliged if Secretaries of Horticultural, Botanical, and allied Societies, or any of our correspondents, will send us IMMEDIATE INTIMATION of all fixtures for the coming year.

THE DECORATIVE USES OF ORANGE-TREES (see Supplementary Illustration).—The association of architectural stateliness with the formality of clipped shrubs seems to be taken as a necessary thing, especially by architects and "formal" gardeners. For certain obvious reasons this association is congruous. But from other points of view the unnecessary clipping and mutilation of shrubs and trees is a thing to be deprecated. Critics are fond of insisting upon the fact that the style of architecture necessitated by the use of stone is not suitable when iron is the material principally used. An Egyptian temple raised in iron would look absurd. A summer-house in granite would be equally anomalous. Why a tree or a shrub naturally destined to a free, flowing style of growth, controlled only by climatal vicissitudes, should be barbarously mutilated we do not know, unless we invoke the influence of caprice or fashion. It is the practice to clip the ears of dogs, to amputate their tails, and even to breed a bandy-legged race of crippled animals for no other cause than that afforded by caprice. These things will not bear the slightest flash of reason. Almost as unreasonable is the use amid architectural surroundings of formal Orange-trees and other tender exotics in tubs. It has become the fashion, and is considered to be as befitting the conditions as the King of Prussia's regiment of giant Guards was, or the bear-skin head-dresses of our Grenadiers still are. Yet when we consider that Nature provides Cedars and Cypressess, Stone Pines and Poplars, and various other hardy trees and shrubs which would either associate harmoniously with or afford striking contrast to the formal lines of the architect, we do not see where

the necessity for the topiary art comes in. If we consider the labour and the cost incidental to the decoration of terraces with Orange-trees, which are only allowed out for a few summer months and then have to be removed with much labour and cost to the prison called an orangery, we shall begin to wonder whether the advantages gained are worth the cost they entail. Nowhere have we seen such vast numbers of Orange-trees as at Versailles. In our present issue we give an illustration of a part of the great terrace, the basement of which forms the "Orangerie," where the trees are housed for the winter. How many hundreds of Orange-trees there may be we cannot even guess, but there they are of all ages and sizes, generally in excellent condition and well cared for. Whilst the Orange-trees predominate, there are mixed with them Pomegranates, Myrtles, Laurustines, yellow Jasmines, and even Justicias. It would be idle to deny their effectiveness when placed in position, but for reasons already alleged, we can but wonder whether the game is worth the candle, and whether a more appropriate and certainly a more continuous effect might not be produced at much less cost and trouble by the use of hardy trees and shrubs of suitable "habit."

ROYAL INSTITUTION.—Among the lectures to be delivered in the coming session are three lectures on the "Flora of the Ocean," by G. MURRAY, Esq., Keeper, Department of Botany, British Museum (Natural History), on Thursdays, January 14, 21, and 28, 1904, at 5 P.M.; and three lectures by A. D. HALL, Esq., Director of the Rothamsted Experimental Station, on "Recent Research in Agriculture," on Thursdays, February 4, 11, and 18, at 5 P.M.

A PICTURESQUE HARVEST SCENE.—The *West Indian Bulletin* lately published an account, by the Honourable W. FAWCETT, of the Banana industry in Jamaica. After dealing with the nature of the plant and its cultivation, the method of harvesting the fruit was described. According to this account, when a bunch is to be cut the stem is partly cut through 5 or 6 feet from the ground, and the bunch, with the whole top of the plant, topples slowly over. The usual custom is to cut fruit by the hundred stems, each cutter by himself, without help, cutting the fruit with a cutlass and catching it. On some estates particular care is taken in harvesting; one man with his pruning-tool cuts and manipulates the fall of the head, while another catches the bunch, and when the stalk is cut hands it to one of the women who are employed to carry it to a particular spot. A bunch weighs from 80 lb. to 100 lb. The bunches are wrapped in "trash" and handed up by two men to another man in a waggon, who packs them in carefully so that there shall be no bruising. It is singularly picturesque to ride through the shady rows of Bananas, with here and there all round majestic heads falling and figures moving swiftly at their work; to note the quick movements of the men with keen upward glances, the stately walk of the women with a bunch balanced on their heads, all accompanied by the noise of the large leaves in their descent, the cries of the men, and the peculiar call for the women when they are wanted. We think the account of this harvesting of the Banana fruit should be interesting to our readers, who hitherto have given little thought to the matter, merely considering these wonderful tropical products as cheap and acceptable additions to Britain's daily food.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—GREAT INTERNATIONAL HORTICULTURAL EXHIBITION. See *Gardener's Chronicle* for Sept. 19, p. 209, and Nov. 7, p. 320.—The Royal Caledonian Horticultural Society, having very largely increased its membership during the past few years, desires to make strenuous effort to further advance horticultural interests in this country, and in

consequence of the success of the International Fruit and Flower Shows promoted by the Society in Edinburgh in September 1865, 1869, 1875, 1882 and 1891, the Council proposes to hold another Great International Exhibition in September 1905, the exact dates to be afterwards determined. After a lapse of fourteen years since the last International, the Council feels that the time has now arrived when another should be held, to show the marked advancement in horticulture which has been made during that period. The Council is anxious that this International should excel its predecessors, and that it may do so it is necessary that it should be in a position to offer such prizes as will secure the best productions of the United Kingdom and abroad. His Majesty the KING has graciously accorded his patronage to this exhibition, and has given a valuable Silver Cup for competition. The Council appeals to all those interested in horticulture for their cordial and liberal support, and early intimation of their subscriptions will greatly assist the Council in carrying through the necessary arrangements. Intimation of subscriptions will be received by P. MURRAY THOMSON, S.S.C., 5, York Place, Secretary and Treasurer of the Society, or by the Union Bank of Scotland, and acknowledgment will be made by the Treasurer. BALFOUR OF BURLEIGH, President; or by P. MURRAY THOMSON, Secretary and Treasurer.

CANCER AND FERN DEVELOPMENT.—One very striking circumstance connected with original research in any department of science is the fact that we never know to what it will lead. Ask the *cui bono* man what can be the use of minute investigations into the buds of Ferns, and he will probably smile contemptuously at what he considers laborious trifling with no good practical result likely to accrue from it. Ask the biologist, and he will tell you that some clue has already been afforded as to the nature of cancerous disease. If the results below mentioned are confirmed, the first step towards the ultimate prevention or perhaps cure will have been obtained. If palliation only of suffering be achieved, the benefit will still be great.

A communication on the subject of cancer was made at the last meeting of the Royal Society, under the title, "Resemblances exhibited between the Cells of Malignant Growths in Man, and those of normal reproductive tissues." The paper proceeded jointly from Professor FARMER, F.R.S., Mr. J. E. S. MOORE, and Mr. C. E. WALKER, all of the Royal College of Science, South Kensington. The investigations on the subject are the outcome of researches affecting botanical problems, and not of medical inquiry. They were, in fact, prompted by studies of the abnormal growths occurring on Ferns, the authors being struck by certain features presented by the proliferating tissues that are formed during the processes of "apogamy" and "aposporry," and these characteristics led them to make a systematic investigation of the transformations of the cells in malignant growths in man. The result has been the recognition of the existence of a surprising degree of similarity between the appearances in such tissues and those of reproductive tissues in general. If the conclusions are well founded, they will serve to throw light upon the nature of malignant growths, and also serve as a point of departure for further investigations.

APPEAL ON BEHALF OF THE BIRMINGHAM BOTANIC GARDENS.—The Committee of the Birmingham Botanical and Horticultural Society are making an appeal for £2,000 for the improvement of the gardens. Amongst the purposes for which this sum is required are the following:—To re-erect the Water-Lily-house; to extend and replant the shrubberies, herbaceous borders, and rosary; to simplify and economise the heating system; to extinguish the debt of £550, and to improve the sanitary arrangements of the garden, &c. Towards this sum donations amounting to £1,313 6s. have already been given or promised, and it is hoped that the remaining sum of £686 may be forthcoming soon.

Donations may be sent to NEVILLE CHAMBERLAIN, Esq. (Hon. Treasurer), Highbury, Birmingham; or to Professor HILLHOUSE (Hon. Secretary), The University, Birmingham.

ROBBERY AT THE GHENT QUINQUENNIAL.—On the 19th inst. two Germans, who had been previously released on bail, were convicted at the Ghent Correctional Tribunal of having cut branches from a fine *Codiaeum Andreanum* Warteli, and fronds, nearly 7 feet in length, from a fine *Nephrolepis*. The arrest of one of the delinquents was made by Count DE KERCHOVE, who handed him over to the Commissary of Police. Sentence was now pronounced, and a fine of 1,156 francs was inflicted, or three months' imprisonment. This is the first occasion since the foundation of the Society in 1808 that anything of this kind has happened, and it is to be hoped that the remorse felt by the perpetrators of this act will be proportionate to its iniquity.

PROGRESS IN CANADA.—The last issued report in connection with the Canadian Experimental Farms (1902) has come to hand, after a period of gestation which is justified by the vast amount of ground gone over and the inherent value of the subjects placed under review. The volume consists of more than 400 pages, and is amply illustrated wherever such assistance is required. The reports relate to agriculture, horticulture, chemistry, entomology, botany, poultry farming. Dairy farming has its report, and fruit-culture has a goodly share of attention. Small fruits appear to be looking up in value, and Plum-culture looms largely in the pages of the book. All the past year's work appears to be very satisfactory, the general results as to profit being highly noteworthy. An interesting chapter is devoted to experiments in tree-planting on Sable Island. This is situated off the coast of Nova Scotia. There were included in this test 63,755 evergreens of twenty-five species and 12,590 deciduous examples of seventy-nine species, a total of 81,345. We have not space to do more than direct attention to the subject as one of interest to many; the details are worth the space they occupy—as is nearly everything else in the volume. Evidently our Canadian friends are well served through the officials of the Experimental Farms.

THE WORLD'S FAIR, ST. LOUIS.—The horticultural and landscape work at the World's Fair, St. Louis, is making rapid progress in all departments. The first consignment of English exhibits has arrived. It includes exhibits of bulbs and outdoor flowers from Messrs. SUTTON & SONS, and Messrs. JAMES CARTER & Co.; large exhibits of Phloxes from Mr. JOHN FORBES, Hawick; and Dahlias from Messrs. J. CHEAL & SONS, Crawley. Amongst other firms who have sent the first instalments of their exhibits are Messrs. H. CANNELL & SONS and Messrs. KELWAY & SON. Mr. W. GOLDRING, who has charge of the horticultural arrangements, has his assistant at St. Louis, who receives and oversees the cultivation of the exhibits on their arrival at the Exposition. Horticulture occupies a most important place in the St. Louis Exposition, and it is pleasing to know that Britain, the home of gardening, is entering so heartily into this international competition.

HERREN UMLAUT AND VOGEL, the first-named the Hof Garten Director of the Imperial Gardens at Schönbrunn, was made by the GERMAN EMPEROR the recipient of the Red Eagle Order of the Third Class, and **HERR VOGEL**, Hof Garten Inspector at the same place of the same Order of the Fourth Class.

CUSTOMS TARIFF FOR COLOMBIA.—On the importation into Colombia, Central America, a duty of 0.45 pesos per kilog. is levied on vege-

tables, sweet herbs, fresh fruit of all kinds; further, seeds, roots of plants, cuttings and living plants, a duty of 4-50 pesos; on Filberts and Walnuts, and on conserved and dried fruits, 9 pesos per kilog.

HOME CORRESPONDENCE.

MOWING LAWNS BY MOTOR POWER.—After so much wet weather it has been most difficult to keep the lawns cut without marking them by the heavy machines and by the horses' feet. I should like to say a word or two in favour of a small 24-inch motor lawn-mower which has given great

we expect you will not be particularly surprised that we do not expect to have a growing seed harvested." This is very serious both for the producer and the buyer. The plants of these two classes of Marigolds, when put out in the open ground, appeared to halt for a considerable time before they started into growth, and then, owing to the absence of invigorating sunshine, the plants delayed getting into bloom; when they did the flowers opened very slowly. The double blossoms, always borne erect in the case of the African type, became saturated with moisture from the incessant rains, and the incipient seeds perished to a great extent. What seeds are secured are very light, and there must be poor germination. The French striped varieties yielded no better crop. I, this season, saw in the middle

EUPHORBIA PULCHERRIMA.—Your correspondent is quite right in attributing the difference in the tint of the bracts to the variety, and not to any constituents in the soil. The late Mr. E. S. Williams distributed, I should think about seventeen years ago, three varieties, the bracts of which were of paler shades than the type. I remember this well, as at the time I was assistant propagator, and had the plants under my care. There was also distributed by the same firm a variegated form, the leaves of which were margined with gold; but this I have not seen for a number of years. *E. B.*

THE COTTON PLANT AND CRISIS.—The crisis in the Cotton trade shows what a short-sighted policy it is to depend on one country for the bulk



FIG. 171.—THE WAKES, SELBORNE: ONCE THE RESIDENCE OF GILBERT WHITE. (SEE P. 433.)

(Photograph by F. Mason Good.)

satisfaction here. We can work it when the ground is too soft for the horses' feet and a large steam-mower, which has been discarded owing to its marking of the banks. I also find that a man can get over as much ground with a 24-inch as he could with the old 30-inch mower, where there is much turning about, owing to its being so much easier to handle and making much better work, especially on unlevel ground. I feel sure it is the machine of the future. It was illustrated in the *Gardeners' Chronicle* of July 25 last. *O. Lamb.*

MARIGOLDS.—Seeds of Marigolds of the African and French types, as represented by the finest strains, will be very scarce indeed this season. A wholesale seed firm who have made a name for the quality of their African Marigolds, say, in answer to an inquiry as to yield: "Of our finest strains of orange and lemon African Marigolds, which are grown by ourselves every year under our own special supervision

of October breadths of African Marigolds in full bloom; and as the flower-heads faded, rot from the wet was the fate of many. There is probably little or no advance upon the prices quoted for foreign seeds of these Marigolds, but I am dealing with our fine selected English and Scotch strains. I am actually depending upon plants grown under glass for stock seeds of African and French Marigolds to sow; and the plants seem in no haste to cease blooming, though the house is a cold one. As soon as the blooms have faded somewhat I cut away all the florets down to near the top of the calyx while they are on the plants, as I find this assists the maturation of the seeds. A mass of decayed florets serve as a reservoir of damp, and it is to save the seeds from injury they are cut away. In dry summers the birds will sometimes play havoc with the large developed flower-heads, tearing the florets out from the calyx, but I have not observed a single flower mangled during the past three months. *R. Dean.*

of our supply. There are climates and soils of every known description within the Empire, and I therefore think Cotton could be grown at a price to make it pay. We should then have something to fall back upon. More Cotton might be grown in Egypt and other parts of the African continent. Cotton was known in prehistoric times, and on the discovery of America was found in everyday use among the inhabitants; and was also known to the Incas of Peru. The plant spread from India into Persia and Arabia, and in Pliny's time it grew in Upper Egypt. The Flemings introduced Cotton manufacture into Manchester, and this took place towards the end of the seventeenth century, when the Flemings fled to this country for protection from religious persecution. These facts are, of course, well known, but they may be of interest at the present time. I may also state that I know many growers of commercial products, but not those of Cotton, and trust the "shortage" will

not cause distress. Till Cotton became a recognised manufacture in this country, it should perhaps be noted that the bulk for Europe came from India. The plants vary in height according to the soil and climate in which they are grown. *B. R. Thornton, Gunnersbury, Chiswick.*

A WORD TO THE FRAMERS OF SCHEDULES OF PRIZES.—As the words "kinds" and "varieties" occur frequently in the schedule of prizes, the definitions of the words are herein given for the guidance of exhibitors. Grapes, Melons, Peaches, Nectarines, Apples, Pears, Plums, Cherries, &c., are distinct *kinds* of fruit; black and white Grapes also count as distinct kinds; Black Hamburgh, Madresfield Court, Black Alicante, &c., are distinct *varieties* of black Grapes; and Muscat of Alexandria, Buckland Sweetwater, Foster's Seedling, &c., are distinct varieties of white Grapes; Blenheim Orange, Earl's Favourite, Lockinge Hero, &c., are distinct varieties of the Melon; Alexander, Hale's Early, Crimson Galande, &c., are distinct varieties of the Peach; Cardinal, Early Rivers, Pineapple, &c., are distinct varieties of the Nectarine; Irish Peach, Beauty of Bath, Ribston Pippin, &c., are distinct varieties of the Apple; Jargonelle, Williams' Bon Chrétien, Marie Louise, &c., are distinct varieties of the Pear; May Duke, Early Rivers, Black Tartarian, Morello, &c., are distinct varieties of the Cherry; Green Gage, Orleans, Victoria, &c., are distinct varieties of the Plum; and so on with other kinds of fruit, such as Figs, Gooseberries, Currants, Raspberries, and Strawberries. Similar remarks apply to vegetables and plants, Potatoes, Turnips, Carrots, Parsnips, Onions, Leeks, Celery, Peas, Beans, Cabbages, Cauliflowers, Lettuces, Tomatoes, Cucumbers, and Vegetable-Marrows being distinct kinds of vegetables, each kind being represented by several varieties. *H. W. W.*

SPECIAL CULTIVATION OF TREE-CARNATIONS.

—The question by Mr. Dutton in the *Gardeners' Chronicle*, p. 407, as to whether "disbudding and stopping constitute special culture," was answered very completely in the note previously published; and it does not matter whether it be Carnation or Chrysanthemum, provided such methods are adopted. It is quite another subject because of this to say "therefore, according to the writer of the article, they" (the Chrysanthemums) "are also out of the reach of the private gardener." Such a statement was neither suggested nor implied. The Chrysanthemum, as we know it to-day, is the outcome of endless endeavours by specialists in France, America, England, and elsewhere; and the plant has become so immensely popular because, while Oriental originally, it has proved equally adapted to cultivation in other parts of the world. The Chrysanthemum is not out of the reach of the private gardener, because it may be flowered perfectly well in autumn in any cool glass-house which is at liberty at the time. It is not beyond the means or skill of the private gardener because, when flowering is past, cuttings may be taken, and, inserted in pots, they will form roots in almost every instance in any greenhouse, cold pit, or frame. Now this is not "a particularly careful or special treatment," see p. 407, but would Mr. Dutton like to start rooting his Carnations in like manner? No—certainly not! Therefore the latter certainly does require a more "careful or special treatment." When introduced into glass structures in the autumn, the Chrysanthemum completes its flowering in a few weeks, almost before the Tree Carnation has made a start. The latter, therefore, if it is to be flowered at all and produce its fullest worth to the cultivator, requires a glasshouse almost continuously. It is indeed to be regarded a permanent subject and by no means comparable in this respect with the one-season-flowering Chrysanthemum the length of whose under-glass-tenure may be cited as six weeks or thereabouts. Mr. Dutton repeats his remarks as to prejudice against the American Tree Carnation, but I have heard nothing but praise for these and Carnations generally. The American Tree varieties have been especially welcomed, not because of any improvement in the character of the flower when compared with the petal quality of the British florist standard, but

because not a few varieties, and the more recent ones, possess vigour which renders them distinctly easier of cultivation and better adapted for the one-stem-one-flower method of culture. Carnations such as these are a comparative

some who specialise this class of Carnation, and of this number none has merited greater praise or credit than Mr. Fielder, Mrs. Burns' gardener at North Mymms Park. Mr. Fielder showed a fine group of plants in pots at the Drill Hall in

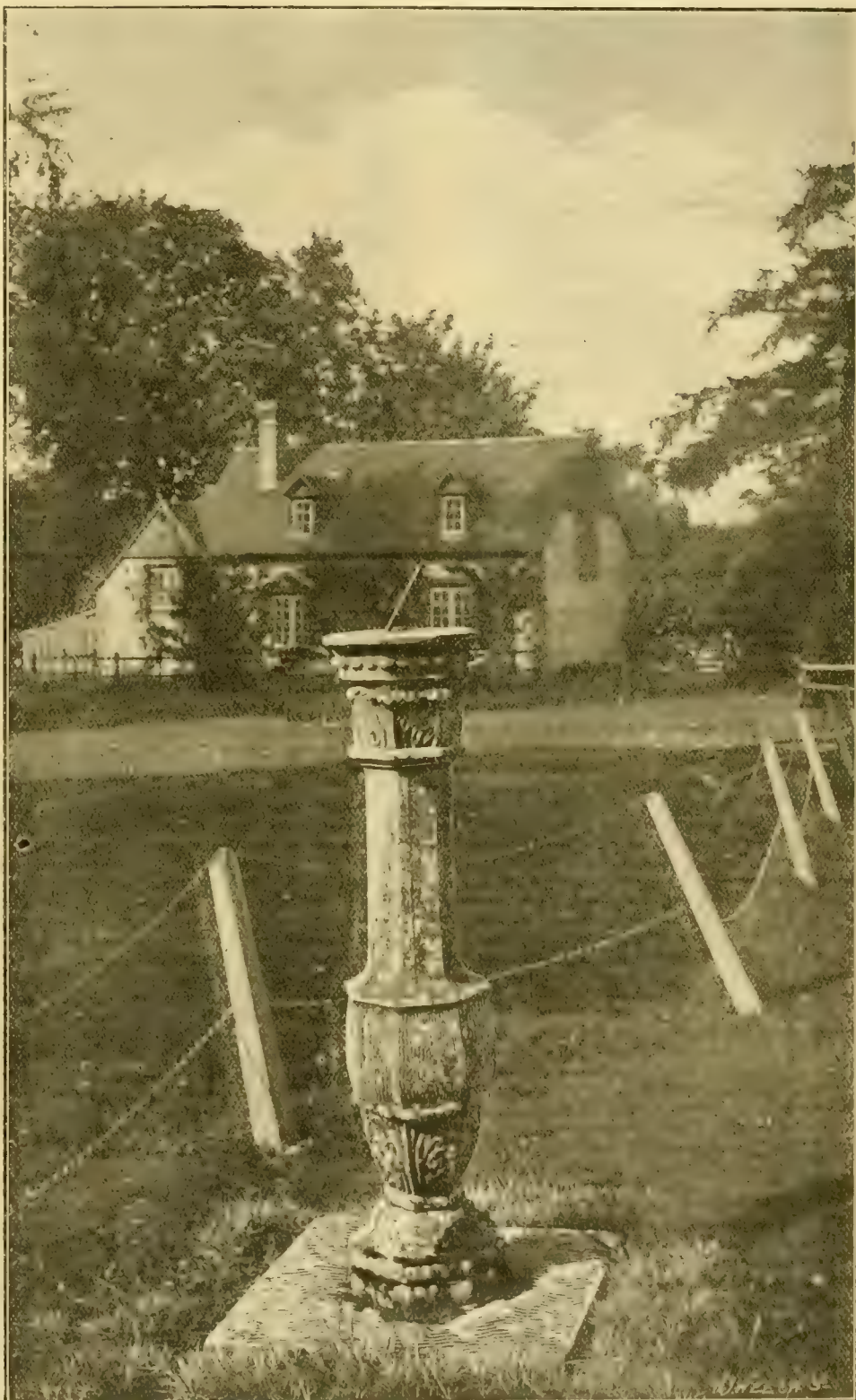


FIG. 172.—GILBERT WHITE'S SUNDIAL AT THE WAKES, SELBORNE. (SEE P. 433.)

(Photograph by F. Mason Good.)

novelty, and as yet only a few colour shades are represented. Even these are widely different from the American Carnation of a decade ago. The great credit for these valuable types belongs to the American growers who have cultivated and praised these long-stemmed flowers in our Horticultural Press. Here in England may be found

March or April of the present year. Mr. Dutton accuses me of "incorrect statements," but he omits to state what they are. Mr. Dutton says that "each of his men has to manage 8,000 plants." The statement is a little vague, inasmuch as other men are said to "manage" a nursery of 300 acres. Therefore if Mr. Dutton

had said that each man propagated, potted, staked, and watered this number unassisted, we should know that the day of American big things had already dawned unobserved in this country. *E. H. Jenkins.*

GRAPE MELTON CONSTABLE.—In referring to this Grape, p. 394, "A.D." misses the chief point claimed by the raiser, viz., the ease in which this seedling colours as compared with Gros Colmar. I have known this Grape several years, and its raiser too, and I do not remember his laying so much stress upon points of quality in flavour as upon ease of colouring. Quite small plants in small pots will colour large or small bunches quite readily as compared with Gros Colmar. From experience of it in its home I can see that the new-comer colours quite easily, and therefore is certainly of value. No one will say that Gros Colmar colours easily under any condition of culture. *E. M.*

THE YEAR 1903.

Now that the year 1903 has about completed its course, it may be interesting to note how far the very cold and unparalleled rainy season has interfered with our horticultural operations.

Potatoes were probably about a one-third rate crop, with a rather alarming amount of disease amongst them. A breadth of Onions with me failed to form any sort of a bulb, they appeared late in autumn like so many Leeks; whilst Turnips, Carrots, and Parsnips did well; also Cabbage, Cauliflower, and Celery. Although the last was very much infested by the larvae of the Celery-fly, the blanched portion is excellent. But of such a year of weeds I have no remembrance; when hoed up they had to be carried off, as there was no opportunity for sun-killing them.

Of the orchard the only favourable notice I can make in that department is that the trees have made excellent growth, and some of the Apples, Pears, and Plums have formed promising fruit-buds. The autumn of 1901 was not over-favourable to the ripening of fruit buds; 1902 gave a miserable crop of out-door fruit, and its summer and autumn were even less favourable for bud development than in the previous year. That, in the opinion of some experienced growers—see *Gardeners' Chronicle* Fruit Report for August—might have had something to do with the failure of the fruit crop for this year; but the spring frosts were so frequent and so severe that even the healthiest and strongest blossoms could not withstand them. The great bulk of fruit buds never expanded at all, and hence followed the general failure throughout the country.

If previous sunless seasons affected in any way the maturing of fruit-buds, it will certainly be an interesting experience to know what will be the result of the cold, rainy, and unparalleled sunless season of 1903 on the opening buds during the spring months of 1904. Judging from former seasons, the prospects seem to be against us; but as the most unexpected things sometimes happen, let us look on the bright side of it, and hope that the spring months of 1904 will for once be phenomenally free from hurtful frosts; that a bountiful fruit year will be the result, and so turn the tide of our present pessimistic ideas of hardy fruit-growing into optimistic visions of reality, and future hope for still greater successful development.

It is not a very comfortable feeling to know that we are obliged, year after year, to depend upon Canada and the United States of America so largely for our Apple supply. True, we have some excellent Apples in this country—i.e., when we do happen to have them—and, rightly or wrongly, we think there are no Apples of any country equal to an English-grown Apple for flavour; whilst our Transatlantic friends are just as satisfied that no other country's Apples are equal in either beauty or flavour to theirs.

That is how matters stand at present, and we have no intention whatever of falling out over it. We should be perfectly satisfied if Nature would only send us weather sufficiently genial to enable us to grow our own fruit supply.

Although in this country at the present day it is unfortunately a well-known fact that much of our land as regards cultivation is fast approaching to an almost derelict condition; yet few landlords or tenant farmers, by way of trying to improve their circumstances, seem to have much heart to go in for the risky adventure of orchard-planting.

In Canada, the States, and in every new Colony where the climate is temperate and suitable, quite the reverse is the case; a good orchard being about the first thing to establish on the taking up of land. But from these newer countries we only find a few varieties, all useful and good, sent over here; but what a collection of rubbish we still find growing throughout the British Isles!

Were there any profit to be seen in a year after year of Apple cultivation, our farmers and cottagers would be among the first to take it up. They are not as a class, as is too often supposed, without abundance of latent horticultural knowledge for the enterprise, could they but see their way to ultimate success in their venture.

As soon as it is seen that a certain fruit, flower, or vegetable will bring a profitable return, it is at once taken up. Of late years we have seen the extraordinary development of the culture of the Grape Vine, of the Peach, Tomato, Chrysanthemum, of Begonias, Dahlias, Orchids, &c.; all these and many more are at the present time in full commercial profitable swing.

Horticulture at the present day is progressing by leaps and bounds, whilst agriculture, on the other hand, from some cause or other, seems to be drifting into a rather retrograde condition. With the exception, perhaps, of our improved implements of husbandry, artificial manures and improved seeds, I think that if a noble Roman of the days of Virgil, Columella, or Pliny were now to visit these shores, to which they introduced their knowledge of agriculture, they might find our system of cultivation but little improved from what it was at the time the Romans quitted this country, and inferior very probably to the culture they themselves practised about two thousand years ago in their own Italian homes.

Our land is locked up in by far too large quantities, fettered by obsolete and ridiculous covenants, and, as we have already said, much of it is lying in derelict condition, which nothing but the inevitable force of progressive circumstances can alter. *W. Miller, Berkswell, Coventry, December 9, 1903.*

NURSERY NOTES.

MESSRS. STANLEY, ASHTON AND CO.'S ORCHIDS.

VERY large importations of all the showy Brazilian Orchids renders the Southgate Orchid establishment one of the most important for that class of plants, and each in its season may there be seen in great variety. A large number of *Cattleya labiata* have passed out of bloom, and houses full of *C. Mossiae*, *C. Schroderae*, *C. Trianae*, and *C. Mendelii* are now well furnished with flower-sheaths to follow on the show throughout the season.

Among fine batches noted at a recent visit were an interesting lot of most of the species of *Miltonia*, some of the singular *M. × Crawshayana*, a yellow-petalled form allied to *M. Regnelli*, being in bloom; also a remarkably handsome *M. × Bluntii Lubbersiana*, *M. Moreliana*, and others. The houses of *Oncidium*s had in bloom some very

large specimens of *O. varicosum*, good *O. Forbesii*, *O. Marshallianum*, *O. tigrinum*, and others of that section.

Of *Cypripedium*s a number of *C. × Leeaenum* varieties were in bud, and a great number of *C. insignis*, including *C. i. Sandersae*, and other yellow varieties; *C. Charlesworthii*, and some hybrids.

The houses of *Odontoglossum crispum* contained some specimens in bloom, and among other things noted were *Cymbidium grandiflorum* in bud, *Odontoglossum × Duvivierianum*, a small batch of white *Cattleyas*, said to embrace albinos of most of the *C. labiata* section, and a great quantity of *Dendrobium Wardianum* in excellent condition, well ripened for flowering.

ADVANCE IN CHRYSANTHEMUMS.

THE MARQUIS DE PINS.—Eleven years ago, when the writer of this notice first introduced the name of Calvat to the British public as a promising French raiser of new seedling Chrysanthemums, he was unknown in this country, as well as in his own.

What has happened since is common knowledge, and has filled a chapter in the history of our famous autumn flower that will never be effaced. Calvat's seedlings for all practical purposes pushed out of cultivation most of the exhibition flowers that preceded them, and completely revolutionised the face of English exhibitions.

The earlier efforts of Delaux, Lacroix, de Regdellet, and Audiguier, his own countrymen, were speedily eclipsed, and as for the American seedlings they were far too late in blooming to be able to compete with those sent out by the now eminent Frenchman, and so were speedily consigned to the limbo of the past. It is a record of which any raiser might be proud, and we were not surprised as events turned out to find that Mr. Calvat, consequent upon the increased demand for his seedlings, gave up a large and lucrative glove-making business in order to concentrate his whole time and attention on the Chrysanthemum.

His is not the only case of the kind. We are acquainted with another well-known French horticulturist whose name has been closely identified with the Chrysanthemum, who formerly carried on an entirely different business, but whose beginnings as an amateur Chrysanthemum-grower led him into the paths of professional commercial horticulture.

In turning over the pages of the current number of our contemporary *Le Jardin* of Paris, we notice the portrait of M. le Marquis de Pins, a gentleman hitherto unknown to English Chrysanthemum-growers, as, indeed, he was to French growers a twelvemonth ago. But his is a name, in our opinion, destined to occupy a prominent position among the seedling growers of the future, if only the same facilities are given to this gentleman's products as have been given to those of other growers in the past.

We are led to this conclusion by what we saw at the recent Paris Chrysanthemum Show, where the Marquis de Pins staged one of the most remarkable exhibits of new seedlings in cut blooms that we have ever seen. In a large raised bed, close to the exhibits of several of his fellow-countrymen who are specialists in the art of Chrysanthemum culture for seedlings, this amateur of only a few years standing set up one of the most imposing and most highly developed collections of novelties it is possible to imagine. Massive, substantial-looking exhibition blooms of colossal dimensions, almost wholly of the Japanese type, were set up in lots of five blooms of each variety. The effect was unique, and growers from all parts of the country, besides the foreign visitors, were much interested in the exhibit.

We were told that this gentleman grows only for his own pleasure, but we since learn from the journal in question that some of these novelties have now passed into other hands and will be

distributed next spring. Quoting from *Le Jardin*, it appears that the Marquis de Pins was first impressed with the *Chrysanthemum* by seeing some cut blooms in Paris in 1895.

Living in the neighbourhood of Toulouse, a town, by reason of its climate, long famous for the raising of seedling *Chrysanthemums*, he began to cross-fertilise his flowers, with the happiest results. He showed his first novelties in 1900 at the Toulouse Show. Then the following year he got his first Certificates at Montpellier. In 1902 he went to Paris, where he was awarded a Gold Medal and nine First-class Certificates. This year he repeated the experiment with signal success, for he won a large Gold Medal of Honour, presented by the City of Paris, and obtained twelve First-class Certificates.

The Marquis de Pins is not only a young grower, but a young man; he lives, as we have said, in a part of France peculiarly suitable for seedling-raising, the home of the Pertuzes, of Bernet, Délaux, Lacroix, Audiguiet, and many other growers who have been famous in their day. Given a fair chance and no favour, we see no reason why his seedlings should not revolutionise the face of our *Chrysanthemum* shows, as has been the case before.

We anxiously await the time when some of these remarkable seedlings shall get into the hands of our most capable exhibition growers. Let them once be seen under such treatment and they will certainly take care of themselves. This is the kind of thing that has helped to make the *Chrysanthemum* what it is to-day. Throughout its whole history there are certain well-defined landmarks, certain new departures, certain grand surprises, all of which have tended to excite, to stimulate and renew the interest not only of the growers, but of the general public who visit and patronise our shows. The present is one that even the most clairvoyant of enthusiasts could never have foreseen, and we await developments with feelings of peculiar interest.

The contest is destined to be keen, and practically has to be fought out between English, Australian, and French growers, not of a bygone generation, but by men who have only recently stepped into the arena. We dare not under the circumstances venture to prophesy what the ultimate result will be, but are content to stand by and watch and wait. *C. Harman Payne.*

CROCUS CASPIUS.

(Fischer and Meyer.)

THIS beautiful winter-flowering *Crocus* belongs, according to Maw's classification, to the Div. II. Nudiflori, Sect. 2. Fibro-membranacei, autumnal flowering. It has for its allies *C. Tournefortii*, *Boryi*, *Veneris*, and *lævigatus*. It comes nearest to *C. Boryi*, but differs from it, and all the others above mentioned, in having yellow anthers, and the style branched into entire stigmata, instead of the white anthers and multifid stigmata common to those four species.

Its far more eastern range again distinguishes it from *C. Boryi*, it being found between long. $48\frac{1}{2}^{\circ}$ and $54\frac{1}{2}^{\circ}$ E., as compared with long. $19\frac{1}{2}^{\circ}$ and 25° E. in the case of *C. Boryi*. In fact, with the exception of *C. alatavicus*, *Korolkowi*, and *speciosus*, it has a more easterly range than any other *Crocus*.

It was discovered by Hohenacker in 1838, on the western and southern shores of the Caspian Sea, and was described by Fischer and Meyer in *Hohen. Enum. Talysch.*, p. 22. Herbert, in his monograph, refers it to *C. Boryi*, but he probably never saw it. Maw made an effort to obtain living corms, but a supply sent from Astrabad was lost in transit.

Last autumn Miss Willmott, Mr. John Hoog and I arranged to send a collector to look for it, and his success in finding it abundantly in

Russian Talysch, S.W. of the Caspian Sea, S. of Baku, has been the means of introducing this charming species for the first time to cultivation. It grows under the shade of low bushes, and reaches no higher elevation than 1,000 feet.

It is a handsome, large-flowered species, the flowers opening well in sunshine; and its great charm is due to the unusually lengthy period of its flowering. It has been recorded as blooming from September to April in its wild state. Here, in a cold frame, it commenced to bloom in mid-October, and has never been without open flowers, and is still throwing up more, and promises to do so for



FIG. 173.—CROCUS CASPIUS. •
Flowered by E. A. Bowles, Esq.: flowers pale rosy-lilac.

some months yet. I have not tried many out in the open as yet, but those planted in the rock-garden last autumn are now appearing, but they are much later than those under cover, and at present show no signs of flowers.

Maw's figure, Pl. xlv., does not do the plant justice, a circumstance due no doubt to the drawing having been prepared from dried specimens. I find the flowers much larger; they vary much in the yellow of the throat; in some it is almost absent on the outer surface. Also many are not pure white, but show a rosy tint,

and I have picked out a few of a decided rosy-lilac, which I showed at the Scientific Committee of the Royal Horticultural Society on November 10 last; and the form is described in the *Gardeners' Chronicle*, November 21, by a misprint, under the name of *C. caspius* var. *lilaceus*, the true name being *C. caspius* var. *lilacina*. *E. Augustus Bowles, Waltham Cross.*

[Our figure was prepared from plants sent by Mr. John Hoog, of Messrs. Van Tubergen, Haarlem. Ed.]

COVENT GARDEN MARKET.

HOLLY, Mistletoe, and other evergreens are the chief reminders that it is Christmas-time. There is an abundant supply of cut flowers and pot plants, but the trade in pot plants was not equal to expectations on Saturday, Dec. 19, and many good examples were left on the stands. There were good plants of *Azalea indica*; the variety *Deutsche Perle* was well flowered, but pink and crimson-coloured varieties were not so good. *Euphorbias* (*Poinsettias*) were very plentiful.

The supply of Hyacinths and Tulips is more than equal to the demand. White *Marguerites* are plentiful and good. Heaths continue to be plentiful; also *Chrysanthemums*, but higher prices are now being asked for these. The trade for Palms and Ferns does not revive much. The best trade was for large-sized plants.

For cut flowers, though supplies were plentiful, there was a general advance in prices. *Lilium longiflorum* and *Arums* or *Callas* were fetching from 5s. to 6s. per dozen. Good *Chrysanthemum* flowers are also dearer. Carnations are much in demand. Good Roses sell well, but the large quantities now imported from France affect the sale of smaller blooms. The variety *Saffrano* from France has been very good and abundant. Some of these flowers have been selling in the streets, three good blooms on long stems for a penny. Violets have been equally plentiful and cheap. *Eucharis* have been plentiful; the flowers seem to have come in rather too early. The prices of Lily of the Valley do not fluctuate greatly. Camellias, Gardenias, and Tuberoses are plentiful.

The new market, which is now open for foreign goods, does not yet present a very animated appearance, a large proportion of the imported flowers are still offered for sale in the ordinary Flower Market. *A. H.*

THE FRUIT MARKET.

The supply of Canadian, Nova Scotian, and Californian Apples and Pears has been very good. The Pears comprise *Easter Beurré*, *Duchesse d'Angoulême*, *Doyenné du Comice*, *Glout Moreceau*, &c.; the Apples are *Blenheim* and *Ribston Pippins*, King of Tomkins County, Baldwin's, Winter Greening, Newtown Pippin, &c. Of English Apples there are very few *Blenheims* and Cox's Orange Pippin of good quality. The past season was so disastrous that there have been few Apples, Pears, or Plums, and it is the first year in memory that no Prune Plums have come to this market from the Aylesbury district. In the Evesham district there was a moderate second crop of Plums, the varieties being *Pershire* and *Victoria*, and these compensated in some measure for the earlier failure.

British-grown Grapes are the finest in the world. Those now to be seen in the market include *Black Alicante*, *Gros Colmar*, *Muscat of Alexandria*, and *Canon Hall Muscat*, of fine quality, and having large berries. These can be obtained by the ton if needed; or barrels of *Almeria*, well-known fruit, if lower-priced produce is required. There are also Pine-apples from St. Michael's, fine fruits, occasionally up to 6 lb. in weight, principally *Smooth Cayenne*; Oranges in variety, of which the finest are *Navel*, *Denia*, *Jamaica*, *Jaffa*, *Murcia*, *Teneriff*,

Tangerine, &c.; Lemons, Messina, Naples, &c.; Lychees, Custard Apples, Avocado Pears, Grape-fruits, Mangos; Figs, fresh and dried; Melons, Bananas from Jamaica and Teneriffe, the supply of which is continuous and enormous. Dates in fancy and other boxes, by the hundredweight, Kentish Cob-nuts, Brazils, Almonds, Spanish, Barcelona, Cocomnuts, &c. There are also some very grotesque-looking heads, carved and manipulated out of Cocomnuts with the outer husk on.

The supply of vegetables is good. Asparagus, Globe and Jerusalem Artichokes, Seakale, Spinach, Dwarf Beans, Mushrooms, Cardoons, English Tomatoes (although nearly over), and Tomatoes from Teneriffe, in boxes, called deeps, in good condition, and in very large quantities; Rhubarb, Cauliflowers, and Broccoli, home grown, Cherboung, and St. Malo; Cabbage, Savoys, Cucumbers, Celery, washed and unwashed; Lettuce, Batavian Endive, Chicory, Cress, Salad, Watercress, Beetroot, &c. Vegetable roots include Carrots, Turnips, Parsnips, and Beet. Of Onions there are English, French, and others, in bags, Valencia in cases, &c. Potatoes include Dunbars, Lincolns, and some from Germany and France; also new ones from Teneriffe, the supply of which has just commenced. Prices all round are reasonable. T. P.

THE CHRISTMAS GRAPE TRADE.

On the last days of the third week of December the question with many of the trade growers is, first, what is the trade going to be; and then, what are the prospects as regards prices? A close acquaintance with growers and salesmen warrants me in stating that it will be difficult to maintain the average prices of last year. Trade has been very dull recently, and of late it has been difficult to sell Grapes of the best quality except at the buyers' own prices. This is not the result of the large quantities in the market; in fact, there has been a smaller quantity than usual. A fortnight since it was thought that the bulk of inferior produce had been cleared out; but it has again made its appearance, in some instances touching 6d. per lb.

The growers have found a difficulty in keeping the Grapes, owing to the mild and damp weather. It is well known that a few local or suburban growers command a special trade, and, being in close touch with the salesmen, the quality and packing being right and to be depended upon, obtain higher prices. The average price all round up to December was better than last year, but not so in December.

Alicantes are difficult to move above 1s. 6d., more being sold at 10d. per lb. It is, however, very true that many indifferently coloured Grapes are on sale. They are not quite sound, and are watery, being, as I suspect, the produce of aged Vines, which have been over-cropped. Many samples of this variety, sound and black, good in other respects, are, however, wanting in bloom, which is so necessary for the best trade. Lastly, the average size of the berries has not been maintained. Gros Colmar Grapes, really of better quality than for some years past, are difficult to sell at 2s., the favourite price per lb. being 1s. 4d. to 1s. 6d. No matter from what quarter these come, they are good. The bulk is being sent up in the cross-handled baskets. Muscats are good in colour, none too large, however, in berry. The best qualities are being put up in "shallows," and command prices up to 4s. to 4s. 6d. per lb. These, if lacking in freshness or in an inviting golden tint, do not sell well. Lastly, there is Canon Hall Muscat, which are wanting in size of berries and colour. It is difficult to quote the ordinary prices, for the reason that so few ever see the open market, and the supply is limited. Those of especial good quality have fetched 6s. to 7s. per lb., and others have been sold at 2s. to

3s. per lb. The salesmen say that fine Grapes are scarce, yet the demand for them is far from good. *Stephen Castle.*

SOCIETIES.

HORTICULTURAL CLUB.

DECEMBER 15.—The usual monthly dinner of this Club was held at the Hotel Windsor on the above date, under the chairmanship of Mr. Harry J. Veitch, and was subsequently followed by a most interesting joint paper, by Mr. G. Bunyard and Mr. Jas. O'Brien, on "Scented Inconspicuous Flowers." Mr. O'Brien naturally treating of the Orchid family, while Mr. Bunyard's remarks were of a more general character.

A number of very curious facts were stated in connection with the attraction undoubtedly exercised through their odours by many flowers which would otherwise presumably escape that attention from the insect world which is an essential factor in their reproduction. With regard to the human faculty of appreciating odours, either as attractive or repulsive, or even as existent or non-existent, it was generally felt that man was little qualified to judge for the insect or even the animal world, since, as Mr. Engelheart pointed out, it was impossible to form a scale of odours in the same way that we can of musical sounds or optical colours; and it is quite possible, and indeed more than probable, that while our eyes and ears are limited in their scope to certain ranges of audible vibrations or to a limited area of the spectrum, insect organs may be capable of appreciating at any rate sounds which are too subtle for our senses; and their olfactory nerves may also be so differently constituted as to be sensible of subtle scents beyond our ken. The case of rare moths in captivity attracting those of their kind from long distances were cited as an example by Mr. Drury; while Mr. Charles Pearson considered that this attraction might be due to extremely high-pitched sounds emitted by the captives.

Mr. Engelheart quoted an instance in support of Mr. Drury's contention, which indicated the attraction of certain moths whose only habitat was seven miles distant. Applying this to flowers, it is conceivable that flowers inodorous to man may nevertheless yet attract the needful insects by scent perceptible by them. The curious fact of certain recognised odours being common not merely to flowers of quite different species, but even to animals and minerals, was brought forward, the pungent odour of the Onion being perceptible not only in other plants, but also in the small snail, *Helix alliaria*, and in the vapour of arsenic. Allusion was also made to the cases of flowers having the most repulsive odours, but attracting carrion flies in large numbers, with the result that they laid their eggs in profusion upon such flowers, though these eggs were destined to perish since no real food such as was suggested by the odour existed for the future brood. Some of the *Stapelia*s possess this peculiarity, and Mr. Drury suggested the possibility of such plants being allied to carnivorous ones, the added eggs acting as nutrient substances. The subtle nature of odours was also indicated, the musk-glands of animals having the power for many years not only of retaining their peculiar scent, but of imparting it perceptibly to the surrounding air and adjacent articles without any appreciable decrease in substance or weight. Referring to the innumerable odours of the foliage apart from the flowers, it was mentioned that such emanations had been regarded as the result of the throwing off of useless materials; this view, however, could hardly be justified, since there was undoubted evidence that in some cases these odours exercised a deterrent effect upon verminous foes.

Both papers teemed with examples of curious relations between scent and inconspicuousness, while, on the other hand, it was pointed out that many very conspicuous ones had, as it were, two strings to their bow, being fully as odoriferous as their humbler relatives.

DEVON AND EXETER GARDENERS'.

DECEMBER 18.—We take the following extracts from the *Devon and Exeter Gazette* of Saturday, December 19: PRESENTATION TO MR. ANDREW HOPE.—"Presented to Mr. A. Hope, from members and friends of the Devon and Exeter Gardeners' Association, after twelve years as Hon. Secretary, December 18, 1903." This was the inscription on the seal of the gold watch chain handed to Mr. Hope at a gathering held at the Castle Hotel, Exeter, on the above-named date. Mr. W. Mackay (Hon. Treasurer of the Association) presided.

The Chairman, in asking Mr. Ham to make the presentation, said Mr. Hope had rendered to the Association valuable service. Having resigned the position of Hon. Secretary, the members felt that they could not let the occasion pass without recognising the value of his work and showing the esteem and regard in which he was held.

Mr. Ham, in handing the present to Mr. Hope, said he trusted that, although the Association had lost Mr. Hope's services as hon. secretary, his counsel would be available in the future.

SUNDERLAND AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT.

DECEMBER 16.—The thirteenth annual meeting was held on the above date in the Café Fawcett, the chairman, Mr. T. W. Bolam presiding over an excellent attendance. Alderman Burns, J.P., was elected president. Mr. T. W. Bolam was again re-elected Chairman, having occupied the position for twelve years. In the Seventies and Eighties Mr. Bolam was connected with the firm of Harrison, of Darlington, at that time famous growers of Roses.

ANSWERS TO CORRESPONDENTS.

** THE NATIONAL CARNATION SOCIETY AND THE NATIONAL AURICULA AND PRIMULA SOCIETY held their annual meetings on the 19th inst., but we are compelled to hold over our reports until next week.

COCKROACHES: A. K. Obtain a bottle of Beetle-cute from the florist or garden sundriesman.

ERICA HYEMALIS: H. C. The flowerless condition of the plant is due to excess of plant-food, in having too large a shift and too much manure. Ericas do not take kindly to manure, unless it be of the mildest nature, say decayed tree-leaves soaked in water till it is of the colour of weak tea. Soot and chemical manures, unless used with the greatest caution, and during the most active season of growth, are likely to do harm.

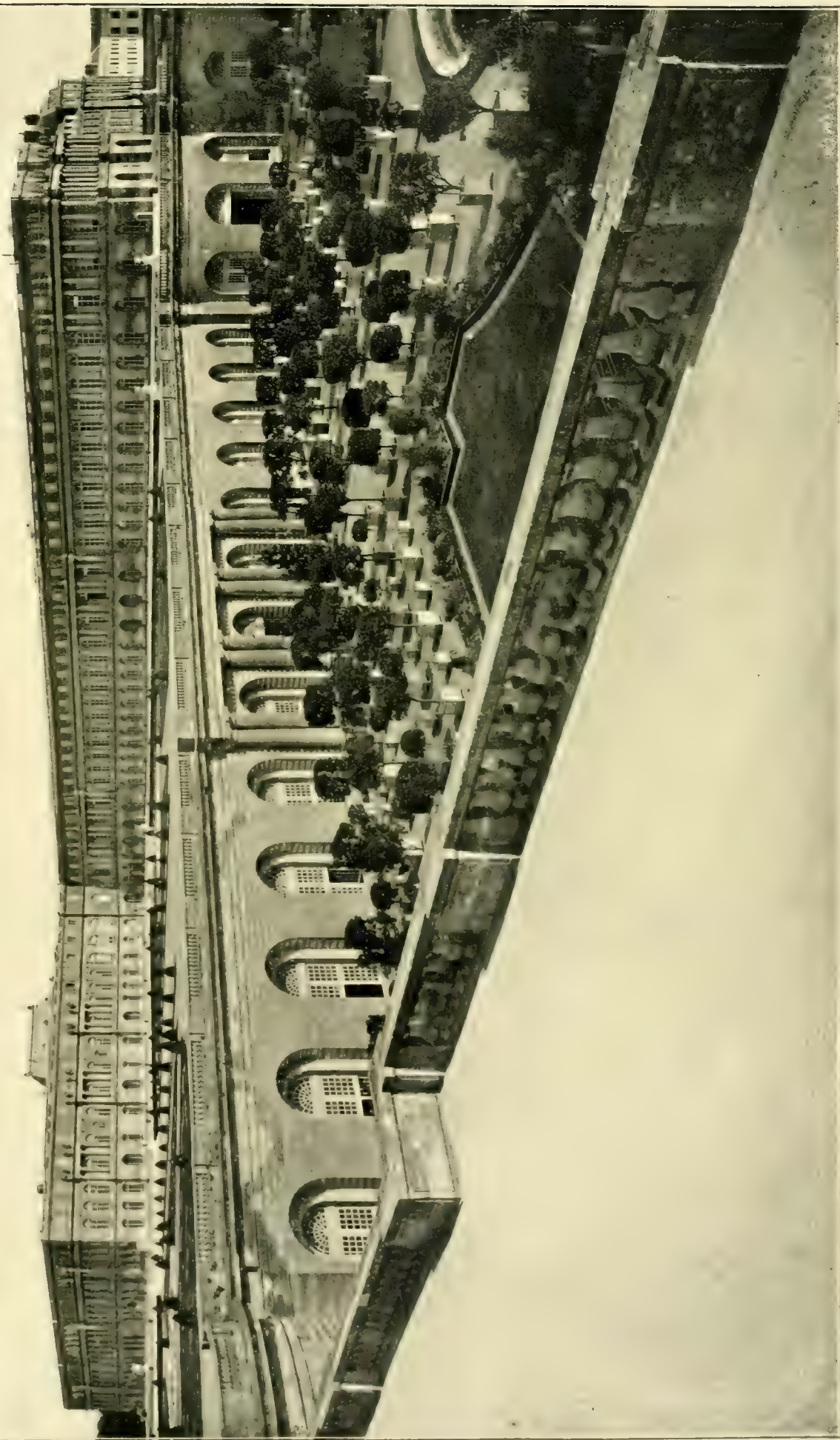
GARDENERS' ORPHAN FUND: *Alfred Tatnall.* Thanks for postal order for 3s. 6d.

NAMES OF PLANTS: Correspondents not answered in this issue are requested to be so good as to consult the following number.—G. H. H. 1, *Cupressus nutkaensis*, alias *Thuopsis borealis*; 2, a *Cupressus*, male flower only, not *Libocedrus*; 3, a *Juniper*; 4, *Thuja orientalis* variety, not *Retinospora obtusa*; 5, *Cupressus sempervirens*; 6, *Cupressus Lawsoniana*.—H. L. D. *Eschynanthus Lobbianus*, as near as we can judge by the leaves. Figured in *Bot. Mag.*, 4260.

PALEMS: J. G. The plants will grow healthily in Jadoo-fibre, and owing to the lightness of the material they will be more readily handled when moving them about in apartments. It is not prudent to mutilate the roots of any species of Palm, and compression of the roots in order to get them into small pots is inadvisable. These plants succeed best in pots that are made of a greater depth than their width, as there is always a tendency in the roots to grow downwards and force the ball upwards, until the plant appears to rest on several stilts visible above the soil.

SCALE OR FUNGUS ON VINE: W. McD. *Aspidiotus hederæ*, one of the commonest and most widely distributed of the shield-bearing scale insects. It is also practically omnivorous, but the Vine is a new food-plant. Loosen the scales as much as possible by going over the infested canes with a good stiff brush, and afterwards apply a dressing of paraffin emulsion (see *Gardeners' Chronicle*, pp. 389, 432, 1903), or of Gishurst's Compound. It would be advisable to place a tarpaulin or sheet under the canes during the operation of brushing, and the insects thus collected should be burnt.

COMMUNICATIONS RECEIVED.—P. M. T.—E. A. B.—W. G. S.—University College, Reading—J. Erikson, Copenhagen.—T. B.—Royal Horticultural Society, Antwerp.—G. F. T.—J. C.—E. J. Lenox, Mass.—H. H. Executors Robert Campbell.—W. C. W.—T. H. C.—J. F. B., Brisbane.—J. P., Birmingham.—B. D. J.—M. R. S.—The Earl Annesley—J. S.—Joseph Talby, Wexlesle.—W. B. U.—J. P. (telegram)—C. N. A.—J. M.—A. H. P.—J. R.—J. C.—R. D. (too late for present issue)—W. D. E.—H. B.—H. M.—W. R.—A. M.—G. W.—E. R.—A. H.—W. M.—W. H. W.—F. K.—S. & S.—J. O. B.—J. D.—G.—T. H. C.—W. H. S.—C. A. R.—Lt. Col. G. C.—H. S.—T. A.—J. R. J.—H. W. W.



VERSAILLES, VIEW SHOWING THE "ORANGERIE."



